SEQUENCE LISTING

<110>   Patrick J. Dillon et al.

<120>   Nucleotide Sequences of Escherichia coli Pathogenicity Islands

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<151>   1997-11-21

<150>   60/061,953
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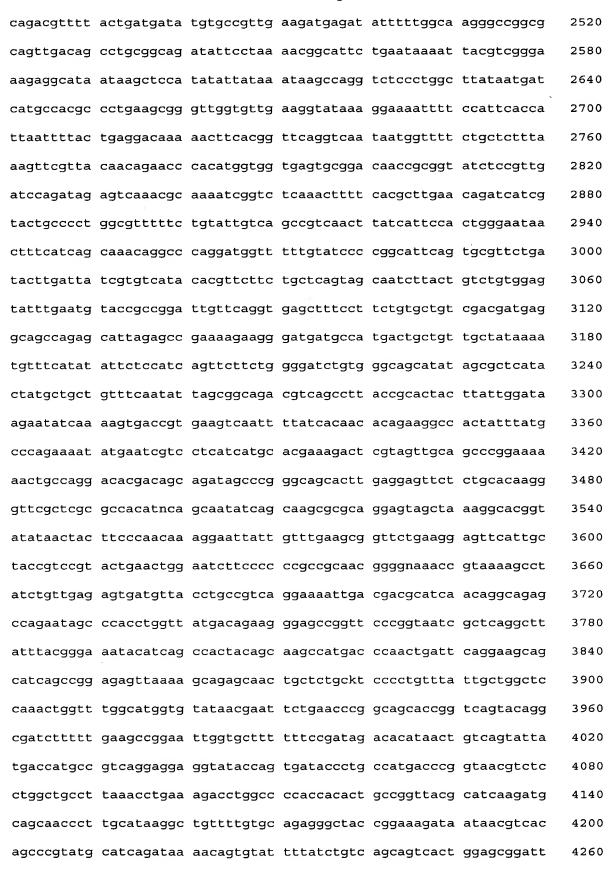
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agaagcaata acagagatgc gtgtgtcatg ctctcccagt tttccctgat tggatatcca   1500

ccatgtgctg tatcctgctt ttgctgccag cgccaccacg ttgttgccgg aatcagggtt   1560

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cagttgttta taatgctgca tttcacgcaa tgtgtcagtt gtccccacaa cagttccttt   1860

aaccatccgc aacggccagc tgtttactga gcataatacg aacagcagca gtgccagcca   1920

gttacggtga ccacggcggt gtgttcgcca gaaaatcacc atgaatacct gaatcgcggc   1980
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gtgtgcaagg agcagaagga gaaacagaag cagcacattt cctgttgcat tcctctcagt   2220

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aataacacca taaccaggtg aataataatg aacagtacca taatgttcat gcacagaaag   480

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gcgaaccttt aaaaacatag cttaaaggaa atgtttgtaa tcttgatgct ctcttatgc      480

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cttatattaa tgactatggt ggtcgcccgg tactgtcgtt tatctgtaat ggtagccgtt     720

gctctgtgaa aaaagagaaa taatgtaccg caataacggt taaatgcggg tgggatatta     780

tggttgtgaa taaaacaaca gcagtactgt atcttattgc actgtcgctg agtggtttca     840

tccatacttt cctgcgggct gaagagcggg gtatatacga tgacgtcttt actgcagatg     900

agttgcgtca ttaccggata aatgaacggg ggggacgcac cggaagcctg accgtcagtg     960

gtgcactgct gtcctcaccc tgcacgctgg tgagtaatga ggtgccgtta arcctccggc    1020

cggaaaatca ctctgcggca gccggagcac ctctgatgct gaggctggca ggatgtgggg    1080

acggtggtgc acttcagccc ggaaaacggg gcgttgcgat gacagtctcc ggctcactgg    1140
```

```
taaccggtcc cggaagcgga agtgctttac ttcctgaccg taasctatcc ggctgtgaca      1200

tcttgttata cac                                                         1213
```

<210> 8
<211> 451
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (437)..(437)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (449)..(449)
<223> n equals a, t, g, or c

<400> 8
```
acgctctagt attctctgtc gttctgcctg ggccactgca gatagaatag tgacaaccat        60

tttacccatc tccccatcgg tactgattcc gtcatcaata aaccgaatgg atacaccttg       120

ggcgtcaaac tcttttatta actggatcat gtcagcagta tcgcgcccaa ggggttcaag       180

tttcttcacc aagatgacgt caccttcctc caccttcatc ctcagcaagt ccagcccttt       240

ccgatcgctt gaactgcccg atgccttgtc agtaaagatg cgatttgctt tcacgcctgc       300

gtctttgagt gcccgaacct gaatatcgag agattgctgg ctggttgata cccgtgcgta       360

accaaaaagt cgcataaaaa tgtatccyaa atcaaatatc ggacaagcag tgtctgttat       420

aacaaaaaat cgatttnaat tagacaccnt t                                     451
```

<210> 9
<211> 720
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (621)..(621)
<223> n equals a, t, g, or c

<400> 9
```
gacaaggctt ataaactcac tgacggggct ggcatgttcc tgctggtaca tcctaatggt        60

tcccgttact ggcgtctccg ttatcgtatt ctgggtaagg agaagactct ggcacttggt       120

gtgtatccag aagtttctct ctccgaagct cgtacaaaac gggatgaggc cgaaaactg        180

atttcggagg ggattgaccc ttgcgaacag aaaagagcta aaaagtagt ccctgattta        240
```

```
cagctctctt ttgaacatat tgcacgacgc tggcatgcca gtaataaaca atgggcacaa    300

tcacacagcg ataaagtact caaaagcctc gaaacacacg ttttcccctt tatcggcaac    360

cgggatatca caacactcaa taccccggat ctgcttatcc ctgttcgtgc tgcagaagct    420

aaacaaattt atgaaatcgc cagtcgtctg cagcaaagaa tatctgccgt aatgcgttat    480

gccgtacagt ctggcatcat cagatataat cctgctctgg atatggctgg cgcattgact    540

acggtaaaac gccagcatcg ccccgctctt gatctttcac gtctgcctga acttctgtcg    600

cgtattaaca gttataaagg ncagcctgtc acccggcttg cgttgatgct gaatttactg    660

ggttttattt cgttccagtg aactcagata cgcccgctgg ttctgaaaat tgatattgga    720
```

<210> 10
<211> 2920
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1)..(1)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (3)..(3)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1250)..(1250)
<223> n equals a, t, g, or c

<400> 10
```
ncnttaattt tatatctcgt aaaataaaat gttttctgta ccgctctccg gagggggaa     60

tgattcgttt atcattattt atatcgttgc ttctgacatc ggtcgctgta ctggctgatg    120

tgcagattaa catcagggga aatgtttata tcccccatg caccattaat aacgggcaga     180

atattgttgt tgattttggg aatattaatc ctgagcatgt ggacaactca cgtggtgaag    240

tcacaaaaac cataagcata tcctgtccgt ataagagtgg ctctctctgg ataaaagtta    300

cgggaaatac tatgggagga ggtcagaata atgtactggc aacaaatata actcattttg    360

gtatagcgct gtatcaggga aaaggaatgt caacacctct tacattaggt aatggttcag    420

gaaatggtta cagagttaca gcaggtctgg acacagcacg ttcaacgttc acctttactt    480

cagtgccctt tcgtaatggc agcgggatac tgaatggcgg ggatttccgg accacggcca    540

gtatgagcat gatttataac tgagtcatac ccaaatgaat aactgtaatt acggaagtga    600
```

```
tttctgatga aaaaatggck ccctgctttt ttatttttat ccctgtcagg ctgtaatgat    660

gctctggctg caaaccagag tacaatgttt tactcgttta atgataacat ttatcgtcst    720

caacttagtg ttaaagtaac cgatattgtt caattcatag tggatataaa ctccgcatca    780

agtacggcaa ctttaagcta tgtggcctgc aatggattta cctggactca tgrtctttac    840

tggtctgagt attttgcatg gctggttgtt cctaaacatg tttcctataa tggatataat    900

atatatcttg aacttcagtc cagaggaagt ttttcacttg atgcagaaga taatgataat    960

tactatctta ccaagggatt tgcatgggat gaagcaaaca catctggaca gacatgtttc   1020

aatatcggag aaaaaagaag tctggcatgg tcatttggtg gtgttaccct gaacgccaga   1080

ttgcctgttg accttcctaa gggggattat acgtttccag ttaagttctt acgtggcatt   1140

cagcgtaata attatgatta tattggtgga cgctacaaaa tcccttcttc gttaatgaaa   1200

acatttcctt ttaatggtac attgaatttc tcaattaaaa ataccggagn atgccgtcct   1260

tctgcacagt ctctggaaat aaatcatggt gatctgtcga ttaatagcgc taataatcat   1320

tatgcggctc agactctttc tgtgtcttgc gatgtgccta caaatattcg ttttttcctg   1380

ttaagcaata caaatccggc atacagccat ggtcagcaat tttcggttgg tctgggtcat   1440

ggctgggact ccattatttc gattaatggc gtggacacag gagagacaac gatgagatgg   1500

tacagagcag gtacacaaaa cctgaccatc gcagtcgcct ctatggtgaa tcttcaaaga   1560

tacaaccagg agtactatct ggttcagcaa cgctgctcat gatattgcca taaatggttt   1620

atccggagcc ggatagtgtg ttgtggatat ctggcatgcc ccgggaagtc acctttcaga   1680

cgggcggagg gctggtgaat tatccgcgat tactgagcag tatggataat cctttttcac   1740

agacttgtca gcagccagca tttatgttct tttatctgag ggaatttatc tgtacgctgt   1800

gccgggatat ctcagttata cagaaatcag gcaggaataa attgtagtgg aaagtcgatg   1860

tttaccggat gactgatgcg cgcttgtaca cagacagtgt gtttcagtaa tatggagaat   1920

aatgaaatga ataacacaga cacattagaa aaaataatca gacaccaaaa aaacaaagac   1980

cccgcatatc ctttcgggaa catttgttga tgcagctctg tattcgcaca aataaaagaa   2040

tgcaggataa tatatctgaa tttctggggg cgtatggaat aaatcactca gcatatatgg   2100

tcctcaccac attattcgca gcggagaacc attgtctgtc accttcagag ataagccaga   2160

aacttcagtt taccagaact aatattaccc gcattacaga ttttttagaa aaagccggat   2220

atgtaaaaag gacggatagc agggaggatc gccgtgctaa aaaaatcagt ctgacatctg   2280

aaggtatgtt ttttattcag aggctcactc ttgcacaaag catgtatctg aaagaaatct   2340

gggattatct gacccatgat gaacaggaac tgtttgaagt cattaataaa aaattactgg   2400
```

```
cacattttc tgatgccagc tcataaagtg cgaaatatct gaggatgccg gatagcttca    2460

ggcaaaataa taatgattct tgcagatgtg tttttccgga tacaaaaaca aatgataaaa    2520

attgcagcgc caggcacctt tcaaagcagg gagacctgta ccgcgtcgaa aatttcagcc    2580

agttaatatc attgtctgaa ccaggcactt tgcccgggca ggagaaggag ttgtggcggt    2640

ctcagcccgg aacaatttga aaaccataat ctcgcttagg gccgtgtcca cattacgtgg    2700

gtaggatcac tcctggattt tctctttttg gacattgacg tctccattgg tttaaacacg    2760

gcaatggaga ctgcggtgaa aagagttaat tcccggagtg actggctgga tgccaatcaa    2820

tgatcggaag catgccaaac tgtgaacgga gatggatgcc gccaaatcat gatcgattca    2880

gatgccatat ttgcaatatc gcgttaatcg tcagttcagc                          2920
```

```
<210>   11
<211>   1678
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (1666)..(1666)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (1677)..(1677)
<223>   n equals a, t, g, or c


<400>   11
ggtaaggaag ttatatatat gagcaactat acatcttaga tgtatgataa agaaaaagat      60

aacagttctt tagaatatgt atattgaaga gaatgcaata gcatggttta tataaattac     120

gcataaaaat aagcatatgt aagcattttg gtttgctttt tttaacctgc caccgcaatg     180

aatgcttttt ttatgttaat gtgcgttatg aaactaaatg caagaaacat atttaaagga     240

ttaatatcgt tctctcacag actccgttta cttattcaag aatataattt aatttatagt     300

gagcttatta tgaatatgaa caatccatta gaggktcttg ggcatgtatc ctggctckgg     360

ggccagttcc ccattacaca gaaacyggcc agtttctttg tttgcaataa atgtattacc     420

tgcaatacgg ggctaaccaa tatgctttat taacccgggg ataattaccc tgttgcatat     480

tgtagttggg gctaatttaa gtttagaaaa tgaaattaaa tatcctaatg atgttacctc     540

attagtcgca gaagactgga cttcaggtga tcgtaaakgg tycattgact ggattgctcc     600

tttcggggat aacggtgccc tgtacaaata tatgggaaaa aaattccctg atgaactatt     660
```

```
ccgagccatc agggtggaty ccaaaactca tgttggtaaa gtatcagaat ttcacggagg      720

taaaattgat aaacagttag cgaataaaat ttttaaacaa tatcaccacg agttaataac      780

tgaagtaaaa aacaagacag atttcaattt ttcattaaca ggttaagagg taattaaatg      840

ccaacaataa ccactgcaca aattaaaagc acactacagt ctgcaaagca atccgctgca      900

aataaattgc actcagcagg acaaagcacg aaagatgcat taaaaaaagc agcagagcaa      960

acccgcaatg ggggaaaaca gactcatttt tacttatccc taaagattat aaaggacagg     1020

gttcaagcct taatgacctt gtcaggacgg cagatgaact gggaattgaa gtccagtatg     1080

atgaaaagaa tggcacggcg attactaaac aggtattcgg cacagcagag aaactcattg     1140

gcctcaccga acggggagtg actatctttg caccacaatt agacaaatta ctgcaaaagt     1200

atcaaaaagc gggtaataaa ttaggcggca gtgctgaaaa tataggtgat aacttaggaa     1260

aggcaggcag tgtactgtca acgtttcaaa attttctggg tactgcactt tcctcaatga     1320

aaatagacga actgataaag aaacaaaaat ctggtagcaa tgtcagttct tctgaactgg     1380

caaaagcgag tattgagcta atcaaccaac tcgtggacac agctgccagc attaataata     1440

atgttaactc attttctcaa caactcaata agctgggaag tgtattatcc aatacaaagc     1500

acctgaacgg tgttggtaat aagttacaga atttacctaa ccttggataa tatcggtgca     1560

gggttagata ctgtatcggg kattttatct gcgrtttcag caagcttcat tctgagscat     1620

gcagatgcag ataccggrac taaagctgcc agcaggtgtt ggattnacca acggaant      1678
```

```
<210>   12
<211>   2676
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (128)..(128)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (447)..(447)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (1100)..(1100)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
```

<222> (2660)..(2660)
<223> n equals a, t, g, or c

<400> 12
aaggattact ttggaatctg acaacaaagt tactatgaaa aagaactaac aaagttatat   60

aatgacgcta aaaatgcttt gaaagatgtg caatctaaag caaataggtt aatttctgat   120

aataaganaa aacataagag tgaactaaaa aacatttctt atgaattcca atcaactaat   180

ctcaatggca aagatactgc gtatatattg gatgtaraaa gaaatctaga aagtaaaatt   240

gagaatactt caaacgaatg agtgtaatga aataagaaaa ctaaccgacc agattgcaat   300

aattagtgat agtaccactt ctgaaaattt atcatcggct caagtaactg aagcaatcga   360

aactgaactt gaacatttac gagaccaaca agcaaataac gcagagttaa tactacttgg   420

catggctctt tctgtagtac atcatgnatt taatggtaat attagggcaa ttagaagtgc   480

gctaagggaa ttaaaagcat gggctgacag aaatcctaag cttgatatta tataccaaaa   540

aatcagaact agttttgatc acttagatgg ttatttaaaa acctttacac cattgacaag   600

acgtttaagt cgctctmaaa ccaatataac tggaactgcc attttagaat ttatcagaga   660

tgtattcgat gatcgtcttg agaagaagg aattgaatta ttcactacct caaagtttgt   720

taatcaagaa attgtaactt acacatcaac catttaccct gtctttataa atctaattga   780

taacgcaata tactggcttg ggaaaacaac tggagaaaaa agacttatac ttgatgckac   840

tgaaacagga tttgttattg gtgatactgg tcccggtgtt tcaactagag atcgagatat   900

aatatttgat atgggattta cacgaaaaac aggagggcgt ggaatgggat tattcatttc   960

caaagagtgt ttatctcgag atggatttac tataagattg gatgattaca ctcctgaaca   1020

gggtgctttc tttattattg agccatcaga agaaacaagt gaatagcgga tataaataaa   1080

tgacaagctc tactgatttn cataaacttt ctgaagactg cgttcgccgt tttttacatt   1140

ctgtagttgc tgtagatgac aatatgtctt ttggagctgg tagtgatact ttccctacag   1200

acgaagatat taatgcttta gttgatcccg acgatgatcc tacaccaata ataacagcat   1260

cagcatcccc aaggatagaa tcaactaaat caaaagcaaa ggtaaaaaac catccttttg   1320

attaccaagc tctagcagaa gctttcgcca aagatggtat tgcttgttgc ggattattag   1380

ctaaggaagg tgcgaataag cggggaaatt cttctcggct gactcagtca tttcatttct   1440

tcatgtttga gccgattttt tctcccgtaa atgccttgaa tcagcctatt tagaccgttt   1500

cttcgccatt taaggcgtta tccccagttt ttagtgagat ctctcccact gacgtatcat   1560

ttggtccgcc cgaaacaggt tggccagcgt gaataacatc gccagttggt tatcgttttt   1620

cagcaacccc ttgtatctgg ctttcacgaa gccgaactgt cgcttgatga tgcgaaatgg   1680

```
gtgctccacc ctggcccgga tgctggcttt catgtattcg atgttgatgg ccgttttgtt    1740

cttgcgtgga tgctgtttca aggttcttac cttgccgggg cgctcggcga tcagccagtc    1800

cacatccacc tcggccagct cctcgcgctg tggcgcccct tggtagccgg catcggctga    1860

gacaaattgc tcctctccat gcagcagatt acccagctga ttgaggtcat gctcgttggc    1920

cgcggtggtg accaggctgt gggtcaggcc actcttggca tcgacaccaa tgtgggcctt    1980

catgccaaag tgccactgat tgcctttctt ggtctgatgc atctccggat cgcgttgctg    2040

ctctttgttc ttggtcgagc tgggtgcctc aatgatggtg gcatcgacca aggtgccttg    2100

agtcatcatg acgcctgctt cggccagcca gcgattgatg gtcttgaaca attggcgggc    2160

cagttgatgc tgctccagca ggtggcggaa attcatgatg gtggtgcggt ccggcaaggc    2220

gctatccagg gataaccggg caaacagacg catggaggcg atttcgtaca gagcatcttc    2280

catcgcgcca tcgctcaggt tgtaccaatg ctgcatgcag tgaatgcgta gcatggtttc    2340

cagcggataa ggtcgccggc cattaccagc cttggggtaa aacggctcga tgacttccac    2400

catgttttgc catggcagaa tctgctccat gcgggacaag aaaatctctt ttctggtctg    2460

acggcgctta ctgctgaatt cactgtcggc gaaggtaagt tgatgactca tgatgaaccc    2520

tgttctatgg ctccagatga caaacatgat ctcatatcag ggacttgttc gcaccttccc    2580

taagagtttt aatgtttgaa gaaagagata taattacagc atcatcccac aaagcagata    2640

ttacaatacc ttgactgggn tattgccaag cggata                             2676
```

```
<210>   13
<211>   1485
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (16)..(16)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (144)..(144)
<223>   n equals a, t, g, or c


<400>   13
aaatttgtcc tccggntctt ttcccgtgga tacgggcatt gagacccgaa aggscctgta      60

tttgcgaccg gagaggcatc ctgggggctc agtaaaccag tggtcgctgt atggcggggc     120

tgtgcttgcc ggtgattata atgncactgg sagccggtgc cggctgggac ctgggtgtgc     180
```

```
cggggaccct ttccgctgat atcacgcagt cagtagcccg tattgaggga gagagaacgt      240

ttcagggaaa atcctggcgt ctgagctact ccaaacggtt tgataatgcg gatgccgaca      300

ttacgttcgc cgggtatcgt ttctcagagc gaaactatat gaccatggag cagtacctga      360

acgcccgcta ccgtaatgat tacagcagtc gggaaaaaga gatgtatacc gttacgctga      420

ataaaaacgt ggcggactgg aacacctctt ttaacctgca gtacagccgt cagacatact      480

gggacatacg gaaaacggac tattatacgg tgagcgtcaa ccgctacttt aatgttttcg      540

gactgcaggg tgtggcggtt ggattgtcag cctcaaggtc taaatatctg gggcgtgata      600

acrrttctgc ttacctgcgt atatccgtgc cgctggggac ggggacagcg agctacagtg      660

gcagtatgag taatgaccgt tatgtgaata tggccggcta cactgacacg ttcaatgacg      720

gtctggacag ctacagcctg aacgccggcc ttaacagtgg cggtggactg acatcgcaac      780

gtcagattaa tgcctattac agtcatcgta gtccgctggc aaatttgtcc gcgaatattg      840

catccctgca gaaaggatat acgtctttcg gcgtcagtgc ttccggtggg gcaacaatta      900

ccggaaaagg tgcggcgtta catgcagggg gaatgtccgg tggaacacgt cttcttgttg      960

acacggatgg tgtgggaggt gtaccggttg atggcgggca ggtggtgaca aatcgctggg     1020

gaacgggcgt ggtgactgac atcagcagtt attaccggaa tacaacctct gttgacctga     1080

agcgcttacc ggatgatgtg gaagcaaccc gttctgttgt ggaatcggcg ctgacagaag     1140

gtgccattgg ttaccggaaa ttcagcgtgc ttaaagggaa acgtctgttt gcaatactgc     1200

gtcttgctga tggctctcag cccccgtttg gtgccagtgt aaccagtgaa aaaggccggg     1260

aactgggcat ggtggccgac gaaggccttg cctggctgag tggcgtgacg ccgggggaaa     1320

ccctgtcggt aaactgggat ggaaaaatac agtgtcaggt aaatgtaccg gagacagcaa     1380

tatctgacca gcagttattg cttccctgta cgcctcagaa ataaatgaaa gtccggaata     1440

ttaacggctg attgaattgc ggtttatgcc attttcccgg accaa                     1485
```

```
<210>  14
<211>  22671
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (19750)..(19750)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (20174)..(20174)
<223>  n equals a, t, g, or c
```

```
<400>  14
ttaccaattt catcgtccgg tacatcctcc agaacatctc gcaataaact ctcgtctgcc      60

tcattccatg ccacaccagc atttgggaaa cgaggatcga tctctctttc cttcttctcc     120

ttcttacttt gctctttcg  ggatgataca gatacgacag aacgttcttt taccgctgta     180

attgccataa ctgcattgag cagagatctg cgctccacat cgttcagcat ttttccttca     240

cagatcaaat cattcaggat gtcaatgact agattcagac tttcttctgt tagcttcata     300

tttcagacct tgaagtatgt agataatcag cacaattact aatgtgataa atatcagaag     360

ataatttaca ggtaaaccgg aaaatacatc tgaagaataa aggcctcagc ttaacgtttc     420

agccagtttg tgagctgatt gaggtacggc gatgacatta acgggaatta ctcccctata     480

gctctgagct tatttttcac cctggcaaca tatggtggct actgcgcatg gttttggagt     540

agatatctta ctactcgtag aattgtgctt actggtcagg ccagcgcaca ggcattccgt     600

gcaatcaata gaacactggt tttttagtct tccgttaccc atcaggatgt tagtgcagat     660

tccggtgtat tcgatcagtt gttcggcgaa tcagcgatcg atcacgatgc gatttcgtat     720

gttagggatg ctggtatgat tactcgctga aaaataatgt gaaaaggcag tttttcttta     780

gacatttagc tcattcatgc tgttgtttta cgttttgctg tcgtgtgcag gattatcttt     840

tcgttacggg acgattcatt ccgtttttaat caggagctat ggcgttgct cattggtggg     900

atgccgtaaa gttttaccgc ggcgattaat gatgtgaagt caatccaaat caacggagat     960

ctctcatcat gaatcaacca atacacaatg attactggtt atcccgtttt gaaagtattc    1020

tcaacagtgc cctggtgcaa caccgtgccg tctcgttaat ctgggtggat ttacgtttcc    1080

ctgagcatat gcctgtcacc atcatggatc ccgatccgga ttcagcggtg atttctcgtt    1140

ttttcgaatc cctgaaagcc aaaattcagg cttaccagcg gaaaaaacga cgtaccaaca    1200

agcgtgtgcg tgcaaccacc ctgcattatt tctggtgtcg ggagtttggc aaggaaaaag    1260

gcaggaaaca ttatcacgtg atattactgc tcaacaaaga tacctggtgc tcgccagggg    1320

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gtgggcggca atatggcagg cgcgctggca ggtgcttcag cgccggagct ggcgaacatc    21720

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ggaactctca aggatatgga tggtaagcca gttcctaaag agaatggagg atattgggat    22560

catatgcagg aaatgcaaaa tacgctcaga ggattaagaa atcatgcgga tacgttgaaa    22620

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<210> 15
<211> 2385
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (131)..(131)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (133)..(133)
<223> n equals a, t, g, or c

<400> 15
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gctgacggat nangtgtaca gtggcatcag tggacggmtt acagcataag tgcttaaggc    180

gcgtgaccat acagmtacgg tcgctgcaga gaacagggag aatatcatcc ggaacacggt    240

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gatcaggctg tacagtagca ctccccgctc accaccatgc tcagagctgc gtattaccgt   1860
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ctaattacag ctgctttcg dataacattc gggcagtttt ctttaattct gaagtctgaa      2040

agagatatca gtaattgtat tgctttaaa cattgtcagt atttatttgt ccaaatcgtt      2100

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atcctctgag gagaccacat ctttataacc caccaccgaa atattacaaa gtaatactca      2340

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<210> 16
<211> 746
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (718)..(718)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (741)..(741)
<223> n equals a, t, g, or c

<400> 16
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ttcagtattc cggttcgtac agaactggag ttttacgctc gtggaaaagc tgattcgaag       180

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gtggggcgat aaatataagt cagaagttga tgttaaaagt catgacatca tgcttggtat       600

gacttataac ttctgacgac actgctcctg aacgataatt gcgtatattc tgtaattaag       660

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tcttttatct gttttacaga naattt                                        746
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<210> 17
<211> 411
<212> DNA
<213> Escherichia coli

<400> 17
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ggcaaccat gaaaatccgc acactgacca tcatgccagt aaacaacttt atccagagat   360

tctgctgtta accccatcag tctgaccata tctgatgtca gacaggcctg c            411
```

<210> 18
<211> 977
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (956)..(956)
<223> n equals a, t, g, or c

<400> 18
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gcttctgtag tgacattagc aattagtccc ctctcattcc tgtccattgc cgataagttt   120

aaacgtgcaa ataaaataga ggagtattca caacgattca aaaaacttgg atacgatggt   180

gacagtttac ttgctgcttt ccacaaagaa acaggagcta ttgatgcatc attaacaacg   240

ataagcactg tactggcttc agtatcttca ggtattagtg ctgckgcaac gacatctctt   300

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gaatgggaga aaaaacacgg taaaaattac tttgaaaatg gatatgatgc ccgccatgct   480

gcattttag aagataactt taaaatatta tctcagtata ataaagagta ttctgttgaa   540

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ttatttttga ctgggataaa tataatctcg agctgtgcga agaaattagc aaaatgaacg   12240

agaacctgcc gttgtacgcg ttcgctaata cgtattccac tctcgatgta agcctgaatg   12300

actgcgttta cagattagct tctttgaata tgcgctgggt gctgctgatg atattgctaa   12360

caagatcc                                                             12368
```

<210> 21
<211> 833
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (19)..(19)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
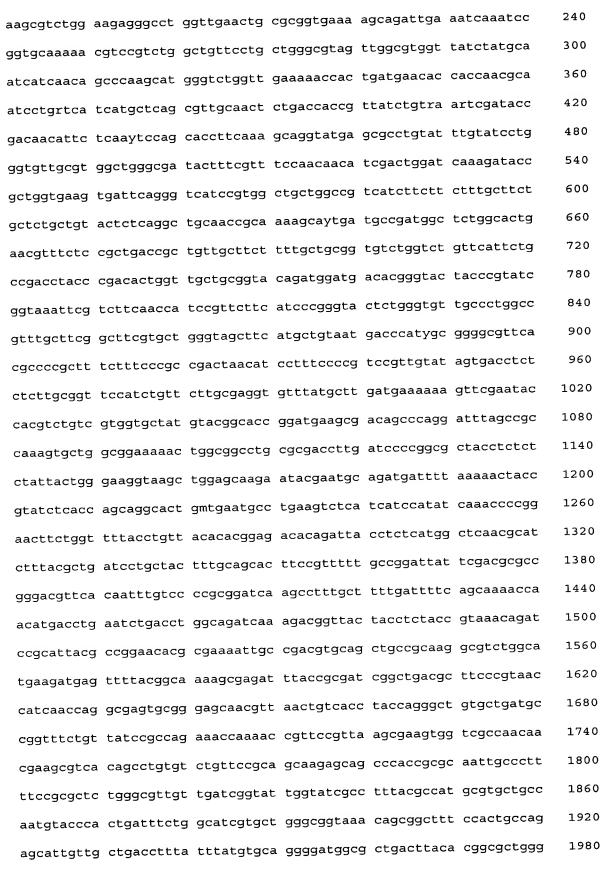<222> (111)..(111)

<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (430)..(430)
<223> n equals a, t, g, or c

<400> 21
gcacggcact ctgatgtanc ttttatctgt tcccagtgga agcatgcccc acaactgagt   60

cattaagtgt ggaagaacag ttttgtcccc gcctgcaatc tctccctttc naaaaaccag   120

tatgtcgcca tgcctcgcct taatggagag cgctgaacca taccttcttt ttcccagtaa   180

taacaggtaa tagcgtgcct ggtaatccgt taccgccagc gcctccgcaa tttctgcggt   240

tttccctcca ttatgcctgt tcagaaatyc cagtatttca ttcttcatat attcactcat   300

ctcactgtaa caaagttyct ycgaataata aaaatcatgc tttctgttat caacggaaag   360

gtatttttat tctctgtgtt tgctttattt gtgaaattta gtgaatttgc tttttgttgg   420

ctttatttgn atgtgtgtca cattttgtgt gttatttttc tgtgaaaaga aagtccgtaa   480

aaatgcattt agacgatctt ttatgctgta aattcaattc accatgatgt ttttatctga   540

gtgcattctt tttgttggtg ttttattcta gtttgatttt gttttgtggg ttaaaagatc   600

gtttaaatca atatttacaa cataaaaaac taaatttaac ttattgcgtg aagagtattt   660

ccgggccgga agcatatatc caggggcccg acagaagggg gaaacatggc gcatcatgaa   720

gtcatcagtc ggtcaggaaa tgcgtttttg ctgaatatac gcgagagcgt aytgttgccc   780

ggctmtatgt ctgaaatgca ttttttttta ctgataggta tttcttctca ttc   833

<210> 22
<211> 2916
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (2453)..(2453)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (2864)..(2864)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (2908)..(2908)
<223> n equals a, t, g, or c

<400> 22

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tgcaccatca ctgataccac cgggacccccg gatttttatcc ggtccccgcg gactgacagg      60

gtttgtgaca cctgagtcat atccgatgta aacttcattt tcacgggttg tacaggaaaa     120

ctcccctgtg ccattgagtt ctgatgtgtg cccttcgcca caactcccac cgtcacggca     180

ccagttgcat ctgacgccga ccaactgctg agagccatgc cgtttccggc tttgtcgaca     240

acgcatgctg cagttcccag cgatgcgaac tggtctggca tgcattcacg aaccaacagc     300

agtggtgcta cgtccggatg caattcgcat gagctccaac cgcggttgta agttcagcag     360

cccgggcctc tgcccccggc acagtcgcat aagtattcga taccgtgcga caccattacc     420

ttcaggatac gccacggacc cgtcacccta cgaaaacgcc ggagcaccgg caatcagcaa     480

aggcagcagt gataaaagac tgatatattt cctgtcatta tttttcatat taatttaact     540

cctgattaac cggttttttat tgatatgaga aagtaatagt tgcaatagcc ttcacacttc     600

caggtgtagt tgcatcagca atttttatat aattggctct taaattgata tgtggattta     660

cctctcccct gtaatcggag aagtgccatt gactgccatt tcctttcaca ggggagtctt     720

caccatagct gatggcagtt acatcactgt ctttatatag cctgatgcca aatccttttg     780

cagtggattc actgcttaag gtcaatatat ctgttctgtt cactggctgt gatgcatctg     840

tcaatgtagc ataaacatca attccatccg ggcattgtag gtgtatgtca attttacctc     900

cctgtatttc tttatacaaa gatgtgaact gtgattgata tacggtattt aatggcacca     960

catagttttt ttgccccatg gtacatgtct gactctgtac ctgaatgcgc ccaccattta    1020

acataacagg tgctgtcagt cctttattat ttaaacttgt acgttttgct tccaacaaaa    1080

tagtaccaag ctgcctggtg ggtattgtta tatatccatt gggtaatctt cccgttgcga    1140

caaaagcaac aaacaaacga gctccgaagc ttgctgtcgc accgttataa gtattggggt    1200

ttgtattggc acctacaggg tcaatatata tacctgagct atttatgggg accagaggcg    1260

ttgcgggcca atagcccgcc atgccaataa taatacccag tccggataca ccaatatcat    1320

agatatcaaa atcagatgaa tcacggctgt ttccttgatg gaaagtatac gtaatacttc    1380

caattttagg cagtgcgggt gtaaactttc cacgcatcag agcgatggca ccgccattaa    1440

aaacatactg gttacttgtt cccgccagct ctcctatcac ccggggatag gtatgggcat    1500

cagcaggacc aatcacaaca cctggcaatg tggatgtatt aaccgctatc tgcgaaggca    1560

cataatcatc cggacccgct accgccagct tagggagtaa aattaaaaac aatggtatga    1620

aaaagattct tttcatgttt tttcctgatt agggtgctgt atacacagaa caggaacgag    1680

ctgagattgc atatcatctt tattgtgtgc aacatgatat acaaatgaac atctgtcttt    1740
```

```
attatctggt ccccatacaa cgctgagatg accttttttca gggagtcccc tggtaaatac   1800

cttcccggcc tgagcgacat atccggccaa ctgtccatgt tcatccagaa cttcagaagc   1860

cattggaggg ggattgccag tagacatacg aatatcaaat aacagacttc ttcctgtttt   1920

agtgtcaaat ttyactaacg tggcgctatt agcacgagga atgatttcct gctccgtcgc   1980

cgataattca acattcaaat ctaaattgga gggatcgatg ctaatttgat ttttctcata   2040

gggtgtaaca taaggaacaa taccatttcc ccaaaaatcc agacgactac cagaggcatt   2100

attgatggca gccccctgag ctccttcagc atggataatg gcaaaagtat cactcaggtc   2160

attactcaat gtcactccat aggggtgtgc gaccaccgct cccgacgcac caaatgacct   2220

ttgattatta ttctgagtat catgcccgac tgttgtggtt atatttacat aaggtgaacg   2280

ataacccccca ttcattgcat aaccggaagg cccgttttcc tggctgtttc ctgaaagacc   2340

ataagagaac tgattatcct ccccgccagt accactaatt gatgtctgaa tactattttt   2400

ctcttctttg ctataattta aaacagtgga aaacaccggg ctttgaacac ttncctccca   2460

gagggagagt aaaattaata taaaatctgt catcacggcg ttgttgctca ttatctcttg   2520

actgagacaa tccaatttga tagccgagtt gtttccagaa gttgctgtac cccatctggt   2580

attcattacg acttcctta tgtccccagt aattataggt tgttcctgtt aaatacatcc   2640

caccccattt ttcacctaat tcctggttga ttgaaatctg gaattgattc ctgggacgat   2700

aaaacgctgt acttttttaca gaaacatcat caataaacgc gttgtgatta gctgatagcg   2760

catccttcag atgataaaaa tcttttgatg aataacgata agccgccaga gttatatttg   2820

tgttttgagg gctgggaata ttggatggct aataacttgg agtngcagga ctaataaacc   2880

ttttacggcg gttacaccgg gaataccngg aaatgc                             2916
```

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<210>   23
<211>   2677
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (2522)..(2522)
<223>   n equals a, t, g, or c


<400>   23
accgcatcgc caatctcagc ggcagtggtt tacatgtctt ccgtgatgga aggtcatggc    60

atcagctacc tccatctgct ctccgtggtc atcccgtcca ccctgctggc ggttctggtg   120

atgtccttcc tggtcactat gctgttcaac tccaaactct ctgacgatcc gatttatcgc   180
```

aagcgtctgg aagagggcct ggttgaactg cgcggtgaaa agcagattga aatcaaatcc   240

ggtgcaaaaa cgtccgtctg gctgttcctg ctgggcgtag ttggcgtggt tatctatgca   300

atcatcaaca gcccaagcat gggtctggtt gaaaaaccac tgatgaacac caccaacgca   360

atcctgrtca tcatgctcag cgttgcaact ctgaccaccg ttatctgtra artcgatacc   420

gacaacattc tcaaytccag caccttcaaa gcaggtatga gcgcctgtat ttgtatcctg   480

ggtgttgcgt ggctgggcga tactttcgtt ccaacaaca tcgactggat caaagatacc   540

gctggtgaag tgattcaggg tcatccgtgg ctgctggccg tcatcttctt ctttgcttct   600

gctctgctgt actctcaggc tgcaaccgca aaagcaytga tgccgatggc tctggcactg   660

aacgtttctc cgctgaccgc tgttgcttct tttgctgcgg tgtctggtct gttcattctg   720

ccgacctacc cgacactggt tgctgcggta cagatggatg acacgggtac tacccgtatc   780

ggtaaattcg tcttcaacca tccgttcttc atcccgggta ctctgggtgt tgccctggcc   840

gtttgcttcg gcttcgtgct gggtagcttc atgctgtaat gacccatygc ggggcgttca   900

cgccccgctt tctttcccgc cgactaacat cctttccccg tccgttgtat agtgacctct   960

ctcttgcggt tccatctgtt cttgcgaggt gtttatgctt gatgaaaaaa gttcgaatac   1020

cacgtctgtc gtggtgctat gtacggcacc ggatgaagcg acagcccagg atttagccgc   1080

caaagtgctg gcggaaaaac tggcggcctg cgcgaccttg atccccggcg ctacctctct   1140

ctattactgg gaaggtaagc tggagcaaga atacgaatgc agatgatttt aaaaactacc   1200

gtatctcacc agcaggcact gmtgaatgcc tgaagtctca tcatccatat caaacccgg   1260

aacttctggt tttacctgtt acacacggag acacagatta cctctcatgg ctcaacgcat   1320

ctttacgctg atcctgctac tttgcagcac ttccgttttt gccggattat tcgacgcgcc   1380

gggacgttca caatttgtcc ccgcggatca agcctttgct tttgattttc agcaaaacca   1440

acatgacctg aatctgacct ggcagatcaa agacggttac tacctctacc gtaaacagat   1500

ccgcattacg ccggaacacg cgaaaattgc cgacgtgcag ctgccgcaag cgtctggca   1560

tgaagatgag ttttacggca aaagcgagat ttaccgcgat cggctgacgc ttcccgtaac   1620

catcaaccag gcgagtgcgg gagcaacgtt aactgtcacc taccagggct gtgctgatgc   1680

cggtttctgt tatccgccag aaaccaaaac cgttccgtta agcgaagtgg tcgccaacaa   1740

cgaagcgtca cagcctgtgt ctgttccgca gcaagagcag cccaccgcgc aattgccctt   1800

ttccgcgctc tgggcgttgt tgatcggtat tggtatcgcc tttacgccat gcgtgctgcc   1860

aatgtaccca ctgatttctg gcatcgtgct gggcggtaaa cagcggcttt ccactgccag   1920

agcattgttg ctgacctta tttatgtgca ggggatggcg ctgacttaca cggcgctggg   1980

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tctggtggtt gccgccgcag gkttacagtt ccaggcggcg ctacagmacc catacgtgct   2040

cattggcctc gccatcgtct ttacyttgct ggcgatgtca atgtttggct tktttactct   2100

gcaactcccc tcttcgctgc aaacacgtct cacgctgatg agcaatcgcc aacagggcgg   2160

ctcacctggc ggtgtgttta ttatgggggc gattgccgga ctgatctgtt caccytgcac   2220

caccgcaccg cttagcgcga ttctgctgta tatcgcccaa agcgggaaca tgtggctggg   2280

cagcggcacg ctttatcttt atgcgctggg catgggcctg ccgctgatgc taattaccgt   2340

ctttggtaac cgcttgctgc cgaaaagcgg cccgtggatg aacaagtca aaaccgcgtt    2400

tggttttgtg atcctcgcac tgccggtctt cctgctggag cgagtgattg gtgatatatg   2460

gggattacgc ttgtggtcgg cgcttggtgt cgcattcttt ggctgggcct ttatcaccag   2520

cntacaggcc aaacgcggct ggatgcgcgt ggtgcaaata atcctgctgg cagcggcatt   2580

ggttagcgtg cgcccacttc aggattgggc atttggtgca acacataccg cgcaaactca   2640

gacgcatctc aactttacac aaatcaaaac agtagat                            2677
```

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<210>   24
<211>   537
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (521)..(521)
<223>   n equals a, t, g, or c

<400>   24
atcctgatga cgccgtaaat gtgcatttgc caggattgcc gcatagaggg cacgaagaaa     60

aggtcggttg tcaggatgta tccagatgat tctgccactg aaaccttcag ggataagacg    120

attgccaact gccagtcctt taagggcagc attcagcgcc ttacgcgggg cattctgctc    180

cagaaatacg tatgccaagt gagcgtgtac atcaataaag tcattctcct gtcgggcaag    240

gcgcctgagt ttgttgatgt aacttgtttc gctgatttca tccgcatcgt atgcatcaat    300

cagttcttca aactcatcca gcaacgagcc aaaccaggtt tccggaaata tgaaacagcc    360

ctggttatcg ttcacttcaa agcgtaattt gccagtcata ttctgaacct gtaaaaaagg    420

atagaccata atctgcaggc tataaaaatt gtggatgcct ggcatcgggt gtcctttat     480

tgtccgggat taacgttgcc catgataata cagtgaatcc ngttctgtgg taagacg       537
```

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<210>   25
<211>   1128
<212>   DNA
<213>   Escherichia coli
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<220>
<221> misc_feature
<222> (1074)..(1074)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1079)..(1079)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1115)..(1115)
<223> n equals a, t, g, or c

<400> 25
cgctcgagca ccagattcac tgacatgcgc aaactcatgt gtaaatcctg tctgggcatc   60

tatctcaagt aacagttccg ttaaatctac cggtgggagt agctgtttga tccgattatt   120

tagacgaagc aatgatggtg gctcttcctg tttctccaga caactgatag tcagggatgg   180

atatttacct tcattacaga tatgaacttc cgcattcttt tcaaatcgtg atgccaggct   240

ttccaggtct catccagctg aatagccagt tgttgcacac ctttacgtcc atcgacagga   300

tgtcccagtg cccgacagac aggaatacgc tgagtctgcc actcttcacc ttgcaacaac   360

ttctcgcgag gatctcccca gcgatcactg ttttcaagcc cagatgtccc cggcggcgca   420

rtgcatcctg aaggcgttcc agcaaacata gtgaataacc tgcacgctgt atcccgtccc   480

tccgcatcgt atacgaggcg tttccaggga ccggtgataa tatgttcagc gcatcatcaa   540

ggatgcgctt tttcgaacca ttcagttctg ccagataatg aatcgcagcc agtacatgtc   600

acctgccggt gccgcacgga aatgcaggtc ccgcaacacc gccggaagaa aacgtttaac   660

ccgaccgtac tgctcaacca tttcgtcatg gaaattattg ttctgtggac gagcaagttc   720

attaaccttg cttacagatt ctgccagtct gttttttgggt acgcacttga agataacctg   780

cctgagatct gggacatctg tattatcatc cagcaacaat gcacatgccc gcgccagtaa   840

caatgcggcc tgatcaagat ctttcagtgt cctgagtctt ttttttttgcc cggttttctt   900

tgcttcgcgg ataatgtcca gaattagcat atcaagcaca tcaacggcat cgtctaatgc   960

cgttatttcc tgtgctttaa cgaatgcagt aagtacagca agctttctct gctgtggcat 1020

tcgagcgata tattttaccg acgccatgcc agcatgaacg agccagatta cgcnttggna 1080

atggtcaggc agaccgggaa aagttccagt cgggnaaaac tccaagaa   1128

<210> 26

<211> 2311
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (3)..(3)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (2008)..(2008)
<223> n equals a, t, g, or c

<400> 26
ggntgataaa aatcytttga tgaataacga taagccgccc agagttatat ttgtgtttga   60

ggctggaata ttgatgctat aacttgagtg cagactataa cctttacgcg ttacaccgga   120

atacctgaat gctgttctgg acaatgtaat gtcagatgct atagcaccca gatgggtatt   180

aaaggccagg ccagctaacc ccgctgtata tcctgaagct gtggtaagac cactgtttaa   240

agtaatatca ttcgtcaggc cgtattgata ggtgccttgt gctattaaat cattatatgt   300

tttattcgca taacgatact ttcccactga catttgccag cgactaaatc cgggacgaat   360

gagttgagca acggccgcaa aaggaaccgt gaacattcgt gtctggccat tagactctgt   420

tatcttaacg agaaggtcac cagcatatcc actgggatat aaatcattga tgacaaatgg   480

tccggctggc accgtcgttt catagaggat atgagcattt tgataaatgg ttactttagc   540

attactgtta gctattcccc ggacagcagg rgcatagcca cgtaaagaac cgggtaacat   600

tcgttcatcc gatgctaacc tgactccccg caaactgagg ctatccatta gctcaccatt   660

cgtataaaaa tcccctaatg tgaattgtgc tctcaatggg gcaaggtcat gcattatact   720

tgtttctata ttctgatatc cggcaggata gctattattc cagctctcac tgccacggtg   780

gcgcaaagcc atccccacaa attgaatcca gcttttaatc ccagataagt ctgttcgtta   840

ctcgtcccgg aagagctata ctggtaatag ttagcatcat agtttataaa tgctgcagga   900

acaccacttt gccactgaga aggggaaata tatcctcttg acgtgtatt cagcagtgct   960

gcgggatttc gatattcaac cttaaagtcg ataagtcaaa attaattctg gctgaagaaa   1020

gccctgttga cgccggaaag caggaggtgt ttcccgacat agtatctttg actaaatcaa   1080

tcaatgaaag cagctcaggc gtcaggcata acgtcggagc accggtattg gcagtacgta   1140

aatactgcaa atcagccttc cccttccata cattattaac ataaatatca gaataatacc   1200

tgccctcagg cacagggtta ccatgactaa agcggcggat atcaatagca tttatccctt   1260

tatccaaatg caaaaactca gaatcaaact cagcctcttc agcagcaaat gaatggtttg   1320

```
ttactgttaa ccctaatgca gcaaaaagca gaagagaaca acgacagtaa atcaggcatg    1380

acagattatt agcgttcatt attaccttac tccagaacag attctccttg ctgatatcct    1440

ccgtaatcat taacaataac ccaggaaact ttgctggtgg cgcagttctg cctttaagtg    1500

caaatactgt tgaagagaaa gggggaatca ttccaccatg ttcaacaggc gttaagtgct    1560

tattctggtc aactgcaatt ttgttgtagg ttatgtaata aggtgttgga ttaactgctt    1620

taattcggcc ttcctcctgg tgccaggtaa ctttcagata agcatcattt ggtgttaact    1680

tcaggtgagc aggacgaaag aaaaatttta tgcgactacg aacagctagt tgcaaataat    1740

tattattccg ctgctctgag ttatcggagt cttttttttgc cctgggcttt gctggaatat    1800

ccagaacatt tagatagaaa agagattctc ggtctttcgg tagtgactcg cctgtatata    1860

caattctgac tgtttgtcct gatttagagt ccatacgaaa tattggcgga gtaatgataa    1920

aaggacgtgg actgactcag ggggagctgc tgcatctcca tcgycaacca ggactggact    1980

aatgccgaga tttcattgtc attatttnaa cgtatgctaa tactcttttg agtcgccgga    2040

taaacaacac gggttcccat gataactaca ctaccctgaa caactgcaga tacagataga    2100

gtaaaaaaaa acagcacaaa ccttagcatg gtatctccag aagaaagcag ggcagtattt    2160

cctgccccaa aatacaaaac cgtttgttat tcgtaggcga tggtataatt gactgttgtt    2220

tttacattgc ctggagttga tgtcccggtc gcataatatt gagccatata acgtaatgtg    2280

gcattaccat ccccaccaat agtttcagaa t                                   2311
```

<210> 27
<211> 1118
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (142)..(142)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (228)..(228)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (261)..(261)
<223> n equals a, t, g, or c

<220>

<221> misc_feature
<222> (693)..(693)
<223> n equals a, t, g, or c

<400> 27
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tattacctgt gattttttccg ggcgtaaatg gagtccctaa agttatcgca gtcccaatat      60

ttcctgcatt actgttataa agataaacga gtaacccatc agaagatgtg tttgatgtat     120

tctgaactaa aatagcattg tnataagtgt ttgttgccgt tatcgtaacc ttcattgttc     180

ccagattata gggacaccgc atattcacag taaactcttt ttcgtgantt ccattttgac     240

tcagggtctg aatctctaca ncctgccagt caacagttgt gttgcttaca gtacaggcag     300

gaataatcag ttttcctctg aaggtcagat tatcaactgc atgtacatgc tgagacatta     360

acactgcccc cagcattacc ggaagacaca aacctcttat cttttcatc tgaaatatcc      420

tgtacaaaaa ttttgctaac gatatgtcaa ttcaaacgtg gctgttgctt cataatcacc     480

gggtaccaca ctcttcgtcc gcagggcttc cggcgttgcc acaacatacg cgccgaaagg     540

aagctcaaga ctgtttccgg taacctttttc cccctggcct ttgttatggg aggtgccggg     600

tttcagcaga ctgctgccat cggtgtccag cagtgcaatg cctaaccggc cagcattcac     660

tccggttacc ttcagatggc ccgggagrcg cyntcttccg tcccttaaa ggtcagggtc      720

acaattttgc caactgctgt tgcatggcag ttttccagcc tgatgacaaa cgactctgtc     780

ggcgaacgtc cgggcggata ccagaaatcc ctggacgccc gggttttgaa gacgacatgt     840

ttattcagac tgtcaccgga cacatggcag ggtctgtcaa gcagattacc cctgaatgcc     900

acatctgagg ctattgcctg tccggcagac agtgcggcaa acagtaaaag agcgcctgtg     960

cttttttatca tcacattccc ttactcatat tttatgctca gacgcagcat ggccggattg    1020

ctcctggcat cagaatactc aacctcctgt ggcggccttt tcctccaggc gggcaagcat    1080

ctcctcctgg cggcgggtaa ggcgggaca gtaaaaaa                             1118
```

<210> 28
<211> 562
<212> DNA
<213> Escherichia coli

<400> 28
```
ttcgtgggtg aaatcgtagg ccgcgctttt ttgctgatcg gccagttgat gaataggtg       60

gccakgatcg ggataaaacg tacaggcagc gataaacaga cagcccggat agcggttgtt     120

tttaacgcac tccgataacg cctgataacg tgccagcaac ttttgttcgg cggtttgcgt     180

ttcgtccagc atcagctgac gacgccagac atctatctgt tggctaagat aacgcagcgc     240

atcgtagagg attgcctctt tgtctggcca gaagcggcgt actcgtccag tggataatcc     300
```

```
acacgttcag caaccatctc cagcgtggtg ttggcaatcc cttgtaattc taataatttc      360

agggcttctc ccagtacatc ttcacgttgc acgctatttt cctccgkctt tcccactgca      420

atgttcgktc acggttggcg atcgcgcaaa tgtgcgctgg aaggtttcag catccataaa      480

gcccgtgacg cgtgcttgtg gatgctcctg gccttggtcc ggtcaaaaaa gagaatttgt      540

ccggtagggc caaggatatt aa                                              562
```

```
<210>    29
<211>    745
<212>    DNA
<213>    Escherichia coli
```

```
<400>    29
ccatcgcttt accccagaaa agttaagcca tataatgtga gggatataag tcgtcgtatc       60

cggtaagtac agataaccac aacataagct cattcagtaa attttatctc tgaacaaacg      120

actatggcat gctcatttat actattcata agaaagtgtg attatctgta agcattaacc      180

atcaaatcat ataaccatac taaactggcg gatcatcagc accattagca ggtaacttat      240

tgaaatttta ttatgtgttt tttgttgata attaatatgc aatatgaatt tgctatttta      300

gaatcatgaa caccatttaa aattaccatc attaacatca tataaaaata tatttttact      360

aaaacatgaa ttgtatatat ttattagctc aggaaaatta tcagggttca ccttcaaatt      420

aacctgaatg ttatgcttaa tttcacccag tagttcttca tgtgtagatt ttattatccc      480

attattataa tcgataaatg cacacatgtt ttttatgaat tcaaaacctt ttcctgtata      540

cagtttaatg aatgccacca gagcaaacat ttcaagatgt agccataatg ctacgttagt      600

tttttgcaaa gtataaaaaa ttgaattcgc cactttttta cttattgctc ttttatactg      660

tgatcgagca agattcagta gcggaagtcc tcgttcaata aatgaatgtg aaaagactgg      720

ataaattgat gtcggaaacc tttca                                          745
```

```
<210>    30
<211>    400
<212>    DNA
<213>    Escherichia coli
```

```
<220>
<221>    misc_feature
<222>    (6)..(6)
<223>    n equals a, t, g, or c
```

```
<400>    30
gcgttnatgc atttcgasat tttccacttc gttctgacgt tgcactgctt tggcgtcatc       60

attacgtaac gtatcgagga aatcgaggta gccctgatca acatctttgg tgacgtagac      120
```

```
gccgttgaac accgagcatt caaactgctg gatatccgga ttttcagcgc gaacggcgtc    180

gatcagatcg ttcagatcct ggaaaatcaa cccgtcagca ccgatgatct ggcgaatttc    240

atcaacttcg cgaccgtgag cgatcagttc cgtggcgctc ggcatatcaa taccataaaa    300

cgttcgggaa agcgaatttc cggtgccgca gaagcgaggt acactttctt cgctccggct    360

tcgcgtgcca tctcgataat ctgtcagaag tggtgccacg                          400
```

```
<210>   31
<211>   824
<212>   DNA
<213>   Escherichia coli

<400>   31
tgtcgacgat gaggcagcca gagcattaga gccgaaaaga agggatgatg ccatgactgc     60

tgttgctata aaatgtttca tatattctcc atcagttctt ctggggatct gtgggcagca    120

tatagcgctc atactagggg tttgagggcc aatggaacga aaacgtacgt taaggagata    180

attcgttgtt tatatttaaa tttagagctc tcagttcccc ttttaaaata tcctctggca    240

acgtgaatgt ataatggccc aacatattga tatgcccgtg catcagggga gatagccgag    300

cgatatcttc atctataatt tcttcgccat tacggcgcat ccagctcaac gcttcctcca    360

tatagagcgt gttccacaga accactgcat tagtaaccag gcccagcgcc cccagttgat    420

cttcctgccc ttcacgataa cgctttctga tctctccgcg ttgtccgtaa caaatcgcac    480

gagccacagc gtgcgktcct tctcctcgat taagctgcgt caggatccgc cgacgataat    540

cttcatcatc aatataattg aggagatata gcgttttgtt tacacgccct acttccataa    600

ttgcctgtgc cagtcctgat gggcgcgagc ttttcagtaa agagcgaatg agttctgacg    660

catgaattgt acccaacttc aggaaccagc ggttcgcatc atctcatccc actgactctc    720

cgcttttgac agatctgcat atcctcgggc caacttatcc agtactccgt agtttgccga    780

tttattcacc cgccagaaca ccgcctcacc tgcatcggca agcc                     824
```

```
<210>   32
<211>   911
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (841)..(841)
<223>   n equals a, t, g, or c


<400>   32
acaaatcaga ccagttaacc agtcagtcgg ttttatgatt tcactcacta tactttgttt     60
```

```
cataaggatt tcaggatctg ccagactgcg cagaaatgat gcttacgaat acacagtaaa      120

ggcaatgtca tttccgatac agagcctgac attgccataa tgagctattt atctgaaaaa      180

cgacagaata tgatgtttta tcgtaacgta attttaagtt ctcaacttat tgagacatat      240

tgtctttttt acccatgtgg tcatttttca tcccatccgt tttgctcatg tgttctttct      300

ccattttctc tttatccatt gcatttttgc acataccatc cttgcacatt ttatcatgcg      360

cgctggacat gctgcctttt acttcatgtg ttttatccat tgtgtctgct gcctgagcat      420

tgaacatgaa cagcgcggat agtacagttg cagaaataat atttttcatg gttcttcctc      480

atttttaaca attgtatcaa caaccaccaa accagttata accctggtct tcccagtacc      540

cccccggaaa atgattagtg acctctataa cctgaacatg cttggggttt ttatatccca      600

gcttagtagg gatacgtatc tttatgggat agccatattc ttttggcaat accctgttat      660

tccatgtcaa tgtcagcaat gtttgtgaat gtagtgctgt cgccatatca atactggtgt      720

agtaaccatc gacgcaacga aaactgacgt attttgcccg catatcggca ccaatcagcg      780

tcaggaaatg ccggaatggt atccctcccc attttcctat tgcactccat ccttcaacac      840

ngatatgacg ggttatctga ctcacatgct gcatgttata caattcagac caaaaaccag      900

ttacgggtta t                                                          911
```

<210> 33
<211> 463
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1)..(1)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (27)..(27)
<223> n equals a, t, g, or c

<400> 33
```
ngggcagga taattgtatc ctgcccngta tataattctc agcacaggtg ttgactaaag       60

agcgtgaaac tttgctatta tgtcttcgta agattcacgg acggttatac ttgagcctga      120

ttctgtgaag taaacaacag cagaagcatc gttgcctttt tcaatgtatg aaacattcca      180

gtcatggata gccactgcgg gctgaccatt atcccgacgg tgcgtcttaa tgaatcgcgg      240

aagtaattct gcaatatcgt taaaaacacc atttacggta tgagtgatac caccaacgca      300
```

```
atgtagatga gttgactccg gggtatcatt gtctgcttct gcaaagagta tagctgtctt    360

gctaattgta acaggcgcct gtgarcggga taattcgaga gaaataaacc cggattctgc    420

cataaaaact ccagtttgtg atgttatatc atttcatatg ttt                      463
```

```
<210>   34
<211>   565
<212>   DNA
<213>   Escherichia coli

<400>   34
ttctaacctc tgaccaaaaa cagaattacg gttgttatgc tgcagaacct aatgacgtgc     60

aactggcgcg ctattttcat cttgatgaac gggatctggc cttcattaac caacgacggg    120

gcaaacataa taggctgggc attgcgcttc agctcaccac agcccgtttt ctgggaacat    180

ttctgacgga tttaactcag gttctgcctg gtgttcaaca ttttgtcgcg gtacagctta    240

atatccaccg tccagaagtt ctctcccgct atgctgaacg ggacactacc cttagagaac    300

atactgcatt aattaaggaa tattacggct atcatgaatt tggtgatttt ccatggtctt    360

tccgcctgaa gcgtctgcta tatacccggg cgtggctcag taatgacgac cgggtctgat    420

gtttgatttt gccactgcat ggttgcttca aaataaggta ttactgcccg gagcaaccac    480

actagtacgt ctcatcagtg aaattcgtga aagggcaaat cagcggctgt ggaaaaagct    540

ggccgcactg ccgaacaaat ggcag                                          565
```

```
<210>   35
<211>   512
<212>   DNA
<213>   Escherichia coli

<400>   35
cgatggcgtc cggggtgaac gccggataag tttaatttat ccggtcaggc aaaaggcatt     60

aatctgcaga tagctgatgt caggggaaat attgcccggg caggaaaagt aatgcctgca    120

ataccattga cgggtaatga agaagcgctg gattcaccc tcagaattgt gagaaacgga    180

aaaaaacttg aagccggaaa ttattttgct gtgctgggat tccgggtcga ttatgagtga    240

gtcactccgg tgagatgtcc ggttatttat cttttttgtg aatctggtga tgcgtggaat    300

gaaagacaga ataccttttg cagtcaacaa tattacctgt gtgatattgt tgtctctgtt    360

ttgtaacgca gccagtgccg ttgagtttaa tacagatgta cttgacgcag cggacaagaa    420

aaatattgac ttcacccgtt tttcagaagc cggctatgtt ctgccggggg caatatcttc    480

tgggatgtgg aattgttaac ggggccaaag ta                                  512
```

```
<210>   36
```

<211> 827
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (16)..(16)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (361)..(361)
<223> n equals a, t, g, or c

<400> 36
ttgccggtgc ggttantagt ggcagtggtg tcttttggtg taaatgctgc tccaactatt   60

ccacaggggc agggtaaagt aacttttaac ggaactgttg ttgatgctcc atgcagcatt   120

tctcagaaat cagctgatca gtctattgat tttggacagc tttcaaaaag cttccttgag   180

gcaggaggtg tatccaaacc aatggactta gatattgaat tggttaattg tgatattact   240

gcctttaaag gtggtaatgg cgccaaaaaa gggactgtta agctggcttt tactggcccg   300

atagttaatg gacattctga tgagctagat acaaatggtg gtacgggcac agctatcgta   360

nttcagggggg caggtaaaaa cgttgtcttc gatggctccg aagtgatgct aataccctga   420

aagatggtga aaacgtgctg cattatactg ctgttgttaa gaagtcgtca gccgttggtg   480

ccgctgttac tgaaggtgcc ttctcagcag ttgcgaattt caacctgact tatcagtaat   540

actgataatc cggtcggtaa acagcggaaa tattccgctg tttatttctc agggtattta   600

tcatgagact gcgattctct gttccacttt tcttttttgg ctgtgtgttt gttcatggtg   660

tttttgccgg tccgtttcct ccgcccggca tgtcccttcc tgaatactgg ggagaagagc   720

acgtatggtg ggacggcagg gctgcttttc atggtgaggt tgtcagacct gcctgtactc   780

tggcgatgga agacgcctgg cagattattg atatggggga atacccc   827

<210> 37
<211> 400
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (238)..(238)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (364)..(364)

<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (384)..(384)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (398)..(398)
<223> n equals a, t, g, or c

<400> 37
ccaggggccc aaaatccgtg tatccacctt taaagaaggc aaagtttttcc tcaatattgg   60

ggataaattc ctgctcgacg ccaacctggg taaaggtgaa ggcgacaaag aaaaagtcgg   120

tatcgactac aaaggcctgc ctgctgacgt cgtgcctggt gacatcctgc tgctggacga   180

tggtcgcgtc cagttaaaag tactggaagt tcagggcatg aaagtgttca ccgaagtnac   240

cgtcggtggt cccctctcca acaataaagg tatcaacaaa cttggcggcg gtttgtcggc   300

tgaagcgctg accgaaaaag acaaagcaga cattaagact gcggcgttga ttggcgtaga   360

ttanctggct gtctccttcc cacnctgtgg cgaagatntg   400

<210> 38
<211> 578
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (106)..(106)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (501)..(501)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (549)..(549)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (556)..(556)
<223> n equals a, t, g, or c

<400> 38

```
ccgattttt  gcgaaacgtt  ccgcctggca  tcaggatagt  ttgttcgtta  tccagttcgg    60

atagcgcatt  gacgatatgc  aggctgttgg  tcatcaccgt  gatgtnatta  aagcgcgaga   120

gcaggggaac  catctgcaaa  acggtactgc  cagcatcaag  aatgatcgaa  tcgccatcat   180

ggataaaact  aacggcagct  tctgcaatca  gctctttctt  gtgggtgttg  atgagtgttt   240

tatgatcgat  aggcggatcg  gattcctctt  tattcaacac  cactccgcca  taagtacgaa   300

tgacggttcc  ggcatgttcc  agaatgacca  gatctttgcg  aatggktgtg  cctgtggtgt   360

caaatattgc  gccattcttc  aaccgagcat  ttaccctgct  ttgcagatac  tccagaatgg   420

cggcctgacg  ctgacgagtt  tcatgggcgt  gatacctgat  ttaggttcaa  atgataactc   480

gcaagcagta  acatcacacg  naatatccac  gttcagttaa  gcgccatgat  agagcatccg   540

tgatagggnc  aggggnagtc  acacggcgta  atcaccgc                             578
```

<210> 39
<211> 399
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (380)..(380)
<223> n equals a, t, g, or c

<400> 39

```
tgttaggtca  gggcccacag  tcaagcttag  gttttactga  atatacctca  aatgttaaca    60

gtgcasatgc  agcaagcaga  cgacactttc  tggtagttat  aaaagtgcrc  gtaaaatata   120

tcaccaataa  taatgtttca  tatgttaatc  attgggcaat  tcctgatgaa  gccccggttg   180

aagtactggc  tgtggttgac  aggmgattta  attttcctga  gccatcaacg  cctcctgata   240

tatcaaccat  acgtaaattg  ttatctctac  gatattttaa  agaaagtatc  gaaagcacct   300

ccaaatctaa  ctttcagaaa  ttaagtcgcg  gtaaatattg  gatgtgctta  aaggacgggg   360

aagatttcat  cgacacgtcn  gcgtgcaatc  tatccgtat                           399
```

<210> 40
<211> 327
<212> DNA
<213> Escherichia coli

<400> 40

```
cagcctccgt  taccggacag  caaggaggct  gaatggagtt  tacaggattt  gctttttat    60

aatgtctggc  catgcagtma  aaccggacag  gttttattat  catgtgaggt  attctgacat   120

aaaatgctgg  atttttattt  tgtgacgaat  gctgcaaaat  tgcatctgca  ctctgatgta   180
```

```
gcttttatct gtttcagtga agcatgccca caaactgagt tattaagttg tggaagaaca    240

gttttgtccc gcctgcatat ctcctttcaa aaaccagtat gtcgccatgc ctcgccttaa    300

tggagagcgc tgaaccatac cttcttt                                        327
```

<210> 41
<211> 314
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (72)..(72)
<223> n equals a, t, g, or c

<400> 41
```
ggagatgggc atggaactca cttcataata atgcctaccg aagaaatatt aatagatgac     60

atttccacga gngatagcaa taaaacatca gagcagtctt ctcgcttaga aaaagcttta    120

ttaggtttta caaacacaat gtacagtgat tcaaaccctc ctattatagc tcgttttaga    180

gactatctgg aagatggtga gtgcattgac agaattagcg aatcaatttt ttttacaccg    240

caagaattca atcttgcaga tcaccacatt gaaggatggt tcaatgaatt tggtcaattc    300

agtggaactg tttc                                                      314
```

<210> 42
<211> 590
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (44)..(44)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (58)..(58)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (142)..(142)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (145)..(145)
<223> n equals a, t, g, or c

```
<220>
<221>  misc_feature
<222>  (491)..(492)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (584)..(584)
<223>  n equals a, t, g, or c


<400>  42
tcccaagatc ttttttggccg caaatccaca aaacccgtcg ttantgtcgc gcagccantt       60

gcaggccgaa tttgcaccgt tttagaaagc ggcgttttgt agagcagcac gcagtgagaa      120

gccaccgcgc cacgacctac gngcncgcgc agctggtgta attgcgccag acccagacgc      180

tccgggtttt cgataatcat cagactggcg ttaggcacat caacgccgac ttcaataacg      240

gttgtggcaa ccagcaggtg tagctcacct tgtttaaacg acgccatcac cgcctgtttc      300

tcggcaggtt tcatccgccc gtgtaccagg ccaacgttca actctggtag cgccagtttc      360

aactcttccc aggtagttcc gmcgcctgcg cttccagcaa ttccgactct tcaatcaacg      420

tacaaaccca gtatgcctga cgaccttcag ttatgcaggc gtggtgcacc gggtgcaatg      480

gatgtcggta nngcgggtat caggaatagc gaccgtagtc actgggcgtg cggcctgggc      540

ggcactccat ctatcaccga gggtatcgag atcgggcata cgcntgcatt               590


<210>  43
<211>  400
<212>  DNA
<213>  Escherichia coli

<400>  43
gacgaaaggg cctcgtgata cgcctatttt tataggttaa tgtcatgata ataatggttt       60

cttagacgtc aggtggcact tttcggggaa atgtgcgcgg aaccccctatt tgtttatttt      120

tctaaataca ttcaaatatg tatccgctca tgagacaata accctggata aatgcttcaa      180

taatattgaa aaaggaagag tatgagtatt caacatttcc gtgtcgccct tattcccttt      240

tttgcggcat tttgccttgc ctgtttttgc tcacccagaa acgctggtga aagtaaaaga      300

tgctgaagat cagttgggtg cacgagtggg ttacatcgaa ctggatctg caacagcggt       360

aagatccttg agagttttc gccccgaagg aacgttttc                            400


<210>  44
<211>  400
<212>  DNA
```

<213>   Escherichia coli

<220>
<221> misc_feature
<222> (20)..(20)
<223> n equals a, t, g, or c

<400> 44
attcggaaag atgcttctan tttttttaag cacgtataaa ctgttaattc aggttcaatg   60

ctacgaaatg cactagttat aacctgtatt gaaggaaaga tcttctgata ctctttccag   120

agatcttcaa gtctggccat ggaaattgac ttggctgcat attctaggtc agtgtttatg   180

atagtttctc tattctctct gaatgcggaa aaaaaagctt cattcaacaa tgatagtaaa   240

tccctgggcc ggtaaagggt aaattgcaaa catcgcttaa aaccattcct ccctttaaga   300

tcatccgctg tgcatctatc ccaaactcgt tgatctttct caatatctag cttaaatgct   360

actttcattc ttttagctga cagcattagg agttgtgccc   400

<210>   45
<211>   585
<212>   DNA
<213>   Escherichia coli

<220>
<221> misc_feature
<222> (25)..(25)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (178)..(178)
<223> n equals a, t, g, or c

<400> 45
taatgttgaa gacagagata taatntacag catcatccca caaggcagat ataacaatac   60

ttgactggga tatgcaaagc gatagtgggc aatttgctat tgaaataata aaatcgataa   120

tcgtttcaga tataaattct ggaggacgtt tacgtcttct ttctatttat actggtgnac   180

atgttactgc tgttataact aagttgaaca atgagttaaa gaaaacatac cgtagcgtaa   240

taaaaaatga tgatagtatt tttattgaag ataactatgc actcgaacaa tggtgtatag   300

ttgttattag taaagacgtt tatgaaaaag atcttccaaa tgtgttaata aaaaaattca   360

ctaaccttac agctgggttg ctatccaacg ccgcactctc ttgcatttct gaaataagag   420

awaaaaccca tgggatatta acaaaatata ataataaatt agacactgca tatgtttccc   480

acatcttaaa tttaataaaa tccaaggrgt caagggcata tgcttatgaa aatgctcatg   540

attatgcagt agatttaatt tctgaagaaa taagatcaat attgc   585

<210> 46
<211> 390
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (2)..(2)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (195)..(195)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (198)..(198)
<223> n equals a, t, g, or c

<400> 46
antcatccaa ctggccgatc agcaaaaaag cgcggcctac gatttcaccc acgaactgtt   60

aaccacgctg gaagttgacg atccggcgat ggtagcaaag cagatggaac tggtgctgga   120

aggctgttta agccgaatgc tggtgaatcg tagccaggcg gatgtcgaca ccgcacatcg   180

gctggcggaa gatantcntt gcgttcgccc gctgccgtca gggtggtgca ctgacctgac   240

agaaacacag aaaagaagcg atttgccgca atcttaagca gttgaatcgc ttttactgaa   300

attaggttga cgagatgtgc agattacggt ttaatgcgcc ccgttgcccg gatagctcag   360

tcgtagagca ggggattgaa aatccgttgt   390

<210> 47
<211> 473
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (437)..(437)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (465)..(465)
<223> n equals a, t, g, or c

<220>

<221>   misc_feature
<222>   (468)..(468)
<223>   n equals a, t, g, or c

<400>   47
ggatgccagt gtcagcgact ggttaaagtg gtcgatatcg atgagcaaat ttacgcgcgc   60

ctgcgcaata acagtcggga aaaattagtc ggtgtaagaa agacgccgcg tattcctgcc   120

gttccgctca cggaacttaa ccgcgagcag aagtggcaga tgatgttgtc aaagagtatg   180

cgtcgttaat tttatctcgt tgataccggg cgtcctgctt gccagatgcg atgttgtagc   240

atcttatcca gcaaccaggt cgcatccggc aagatcaccg tttaggcgtc acatccgtcg   300

tcccctggca aacgggggcg attttcctcc atttgcctca gtggctggcg tttcatgtaa   360

cgatacatga cagcgcccga caagatcctg atactctttg ggtattcaac cgtttccagt   420

gtaattcgtc gttcacnaac attggcgtta caggcggggc tggcngtnac cca   473

<210>   48
<211>   482
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (48)..(48)
<223>   n equals a, t, g, or c

<220>
<221>   misc_feature
<222>   (87)..(87)
<223>   n equals a, t, g, or c

<400>   48
gaagtgacgg atggctgtgg tttctccatc ggtcaccagc agcagttngc atcatggatt   60

gcctataaag tcgcgccgtt cctcggnaaa aaagaggaga gcgttgaaga cctcaaattg   120

ccgggctggc tgaacatttt ccacgacaac atcgtctcca cgcgattgtg atgaccatct   180

tctttggtgc cattctgctc tcttcggtat cgacaccgtg cagcgatggc aggcaaagtg   240

cactggacgg tgtacatcct gcaaactggt tctcctttgc ggtggcgatc ttcatcatca   300

cgcagggtgt gcgcatgttt gtggcggaac tctctgaagc atttaacggc atttcccagc   360

gcctgatccc aggtgcggtt ctggcgattg actgtgcagc tatctatagt tcgcgccgaa   420

cgccgtggtc tggggcttta tgtggggcac catcggtcag ctgattgcgg ttggcatcct   480

ag   482

<210> 49
<211> 185
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (168)..(168)
<223> n equals a, t, g, or c

<400> 49
gacgacctgc aggcatgcaa gcttggcact ggccgtcgtt ttacaacgtc gtgactggga   60

aaaccctggc gttacccaac ttaatcgsct tgcagcacat cccccttcg ccagctggcg   120

taatagcgaa gaggcccgca ccgatcgccc ttcccaacag ttgcgcanct gaatggcgaa   180

tggcg   185

<210> 50
<211> 491
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (472)..(472)
<223> n equals a, t, g, or c

<400> 50
taacgcttca atacgcgcga ccagctggcg gcgctcatac ggcgtaattt tggcgtcggc   60

gagcaaaatc ccttgtttaa aggtattttg ccagctgccg tcgtcatatt ggcgagcttg   120

ctgacgcgac tgcgcaggca ttaaacgatc agcacaatcc atcgcccgca gccagtaaag   180

cggattggtt tcggttgatt taccttgcag cgcccagatg tcgctacatt cagtagaaag   240

atagtcagcc agttgataaa ccggaatttt ttcttctgct ggcgtatcaa tggctggctt   300

attgtgattc tgcacgcaac ccagcaatgc cagacatgga gaccctgcca gccacagccg   360

tcggggcaat aatcgttgaa aaatgtgtcg catattcacc agacttaaag cctatcccag   420

tgggcgtaat tgttgcagac agtctggaca tggacagcgc ggagaaaccg gnagcgtaca   480

tatcgtacgt g   491

<210> 51
<211> 106
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (105)..(105)

<223> n equals a, t, g, or c

<400> 51
acttgaacgg caattattat ttatccatgc aacttcaagt tgcagtatcg gaacattaac 60

ttttctgggg tgaatatcac tctgatatcg ttttttgtat gcgtnt 106

<210> 52
<211> 481
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (439)..(439)
<223> n equals a, t, g, or c

<400> 52
tttatgtgcg gtattgatgg ctgaagcctg taatatcgga ctggaaccgc tgataaagca 60

caatatacca gcactgaccc gccatcggct cagttgggtg aaacagaatt accttcgtgc 120

agaaacgctg gtcagcgcca atgcccgcct ggttgatttt cagtccacac tggagcttgc 180

tggtcgttgg ggaggtggag aagtggcatc agctgacggc atgcgctttg tcacaccagt 240

gaagaccatc aactcaggat ctaacagaaa atattttggt tctgggacga ggcatcacct 300

ggtataactt cgtatctgga tcagtactct gggttccatg gcattgtggt acccggtaca 360

ttacgggrct cgattttgta ctggaaggac ttcttgagca gcagacaggg ctgaatccag 420

ttgaaatcat gacagacant gcgggtagca gcgatattat tttcggtctg ttctggctac 480

t 481

<210> 53
<211> 558
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (4)..(4)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (36)..(36)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (69)..(69)

<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (456)..(456)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (462)..(462)
<223> n equals a, t, g, or c

<400> 53

```
tggnccgtaa ttcccaacca tttgccgagg tccagntttt tcaccatgtt actcgggata      60

gccaaaacng ataccgatgt tgccgccgtc ccggtgcgag gatcgcggtg ttgataccga     120

tcagttcgcc gttcaggtta accagcgcac caccggagtt accacggttg atcgctgcat     180

cggtctggat gaagttttcg tagttttcgg cattcaggcc gtacgcccca gcgcagagac     240

aatcccggaa gttaccgtct cgcccagacc aaacgggtta ccaatcgcta cggtgtaatc     300

acccacgcgc agtgcatcag aatccgccat cttaattgcg gtcaggtttt tcgggttctg     360

gatttggatc agcgcgatat cagagcgcgg atctttgcca accatcttcg cgtcgaactt     420

acggccatcg ctcagttgaa ctttaatgac cgtcgngtta tnaacaacgt ggttgttggt     480

gacgacatag cctttatcgg catcaatgat gacgccggaa cccagcgcca tgaattctgt     540

tgctggccgc caccatta                                                   558
```

<210> 54
<211> 263
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (37)..(37)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (180)..(180)
<223> n equals a, t, g, or c

<400> 54

```
cacctgcgtg acgtgaccga cctttctcc tcgctgnttg tttccctat cgtcggcctg       60

gtcattgcgg gaggcctgat attcctgctg cgacgctact ggcgcgggac gaaaaaagcg     120

tgaccgtatt cgccgcattc cggaagatcg caaaaagaaa aaacggcaaa cgtcaaccgn     180
```

```
cattctggac gcgtattgcg ctgattgttt ccgctgcggg cgtggcgttt tcgcacggcg      240

cgaacgacgg accaaaaggg atc                                              263
```

<210> 55
<211> 683
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (517)..(517)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (600)..(600)
<223> n equals a, t, g, or c

<400> 55
```
gtaacgcgtc tggaagatgg cctgccagtg ggcgtcgtcg atgtggtcga ggggctggac       60

ggttgccatt ccgccaatat ctcaccggac aaccgtacgc tgtgggttcc ggcattaaag      120

caggatcgca tttgcctgtt tacggtcagc gatgatggtc atctcgtggc gcaggaccct      180

gcggaagtga ccaccgttga aggggccggc ccgcgtcata tggtattcca tccaaacgaa      240

caatatgcgt attgcgtcaa tgagttaaac agctcagtgg atgtctggga actgaaagat      300

ccgcacggta ataatcgaat gtgtccagac gctggatatg atgccggaaa attctccgac      360

acccgttggg cggckgatat tcatatcacc ccggatggtc gccatttata cgcctgcgac      420

cgtaccgcca gcctgattac cgtttttcagc gtttcggaag atggcagcgt gttgagtaaa      480

gaaggcttcc agccaacgga aacccagccg cgcggcntca atgttgatca cagcggcaag      540

tatctgattg ccgccgggca aaaatctcac cacatctcgg tatacgaaat tgttggcgan      600

cagggggctac tgcatgaaaa aggccgctat gcggtcgggc agggaccaat gtgggtggtg      660

gttaacgcac actaaccgct gat                                             683
```

<210> 56
<211> 282
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (231)..(231)
<223> n equals a, t, g, or c

```
<400>  56
tggatgcagg gaaaaacatt gatattaccg gggcaacgtg ctcgtccggt ggagaccttg      60

gaatgtctgc gggtaatrac atcaacattg ccgtaaacct gataagcggg acaaaagtca     120

gtccggtttc tggcacactg atgacaacag ttcatcatcc accacctcac agggcagcag     180

catcagcgcc ggcgataacc tgggcgatgg ctgcaggcag agatkctggg ntgtcacagc     240

atcctctgtt tctgccgggc acagcgccct gctttctgca gt                        282
```

```
<210>  57
<211>  697
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (36)..(36)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (696)..(696)
<223>  n equals a, t, g, or c


<400>  57
atgaacggcc cccccacag cccgttaaca aacggntgcc ccggcgataa tcgtactgat      60

aagttaactc cagcaggcgg ttaattgaaa gcgaacggga ggctgatgca tggtaataat     120

cccttaaaac gcgacggcaa cgcgccagta aaccgtgaga tggtcagggg caagccagtc     180

cgggtaaacc agaggcagtc cggcagtgaa cgaaccggaa acatgaccac tggtggtgct     240

gagcccggca gcagcacccc acagcgtgcc ggacgagtac gggtcatctc tgtcagagtg     300

cagccagccg ccgtccagtg cagtcactgc acggactgtc cccacatatg gcagggagaa     360

cagagaccag gacagctcat ttcgcagata accgccgtta ttaccggaga tatactgctc     420

cttaaagcca cgcactgaac tctcacccccc gaggctcagt tgttccacac catgaagacg     480

gtccggtgac cactgggcat aagcgctggt cagccaccac accctgtccg tgacggggcg     540

ctgaaaactg gcactcaccg accatttccg gaactgattt acgggcaggt ctccccttttt    600

cccgtggtcg ctttctgcgc cgaaccaggg catcccccgt gtgaataccg gattcagtgt     660

tccgacacca cccagaaact tgtgtgtgtg attcanc                               697
```

```
<210>  58
<211>  4835
<212>  DNA
<213>  Escherichia coli
```

<400> 58

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ttcgactgag caccacaaat actgggtatc tccccagata gttcattgcg gtacaagcaa      60

tataggtgca gaaagtcaac ctgctgcacc ctattggata attatatatg gccttcaata     120

aagtttgcgg ttgtcgacgt tggctatatc agccatttcc aatgcatagt tctttggttt     180

agcaccatca agttatagat ttgggaatag tttcaactgg tattgattga attgggtttc     240

atcgtcgatg attaatacta tttgtaaaga ctttattgtt gatttcttat tataccacaa     300

acccaaactg gtctaggtca tcatttggtg ttgataacgg gctctgataa tttctgctct     360

tctgctatac tggggattat gaagaatatt aaggctgagt gtattgaggt agtgttcttt     420

gaaccgacca ttcatgacaa tatattcttc aattcgtgag tgatccagca actggttgaa     480

tttaaaacac tgagtgatgt tatcctctgt aatcgtatgg ttgctgaact agttgatgta     540

gccgataagg tttataccag atatcttttg gggggattag ataacgtagc cgcggatagc     600

aaacgagata gttgaatttt attaccgtaa tttcttccat tgagaaaagc ttatttttct     660

tggtggtatt cgcagttatg tatcttccat aaagacttgg gaatatcttg cttgaaargc     720

tatctggaga tagccttagt tatttgataa atatttcaaa taggaggagc cgtatggctg     780

tcatttatac cctcactaaa tcgtcacttg tcaagtctgg tggtcaatta cattggaata     840

ttgattcgcc atcagaacaa cagccacaaa agatcgtcaa tggtcgggtt gcgcttcggg     900

gatggttact ggcagatgtg gaaaaagatc tccgtgttgc ggttaaaatt gaacatttga     960

catacagttt tcccttcaat ataaagcgcc ctgatgttat ttcagctata ctgaaacagc    1020

cacctgaaaa acatcaaaga cttcattgtg gatttgatat caatgtccca ttttctacta    1080

aaataattat tggccttgag tctgatgggt tgattacctg gttggaagag ttattatttc    1140

tcctgcctga taattgaatt aagtatctat accgatagta tcgcgataga tatatttttt    1200

tacaggatga taatttgaga atctatatag ccgctattat caaggatgag tattcaagtt    1260

tacttgaatg gattgcctac catcgagtat taggtgttga tgggtttakt attgcagata    1320

atggcagtcg tgawggtagc cgagaattac tattttccct cgctcgccta ggtattgtga    1380

cgatgttcga acaaccgact ttggtgaatc aaaagccaca attacctgca tatgaacata    1440

ttttacgtag ctgtcccaga gacatagacc tgcttgcatt tatagatgct gatgaatttt    1500

tattgccact tgaatcggat accaatttgt cagatttttt ttctgaaaag tttcaggatg    1560

agagtgtcag cgctattgca ttgaattggg caaattttgg ttctagtggt gaatggtttg    1620

ctgaagaggg gttggttatt gaacgtttta cctatcgtgc cccgcaatcc tttaacgttc    1680

atcataactt caaaagcgtg gtcaaacccg aacgagttaa ccgctttcat aatccgcatt    1740

atgctgattt gcgttatggt cgatatatcg atgcattggg tcgtgatttg attctgcacc    1800
```

cgaggcatgg taatggggtt agtgctgaag tgacttggag cggtgtcagg gtaaatcact   1860

atgcagttaa atcacttgag gaattcttgt tgggcaagca tctgcgtggt agtgctgcca   1920

ctgctaatcg agtaaagcat aaagattatt tcaaggcaca tgatcgtaat gatgaagagt   1980

gccttctcgc tgccgcattc tcagaacaag taaaagctga aatggaacga ttaagtgtga   2040

agttgactga gttaccagca gttgaaccta ttcctactgg ttcttggttc aaaaaaaaaa   2100

tgaagaaatg gatggtttga atatattgag caagcacttt ggtatttatt tctgctctta   2160

tctacaggtc tgctaataag gatctgtatc ccccaggtgt taccttggac tgtaagttat   2220

attatgtgta gctattgcga ttggcagcct ctgacattgc cagactcgtt ttctcttcat   2280

tctggttggc ttctgattcg ggggcgcgtg ttgacgactc aaactcgagg tgaaactcgt   2340

ctgcgctggc aatgcggaca aggaatatgg catgaacaga agttgccggt cactcgtcga   2400

ggcacgttgc tggagctggt ttatctaccy tcgggagcta gtcattkgtc tttgctggca   2460

agtaataagg gcgctgagtg taatgttgaa attactcagc tttgttgtgt atcccgtgcc   2520

gagagtctct ggcgtcgatt gcgccgggtt gtaccttttt accgacgctt aacgaagtcc   2580

agacgcaaaa ggttaggcct ttcatggcat ttgtggctca cggacttgca gcaagcttac   2640

caacttgtca gcagagttcg cgatgataaa ccactcaata gctatgatga gtggctagca   2700

gacttcgaca cccttgaacc cgccgaatac aagctgatta agcgccagct ggctcgctgg   2760

ggcacattac cacgtttctg tttgcatctt gttggcgttg gggatgaaca gagccgccac   2820

aagaccctgg agagtattca ggcactctgt tatccggcaa gcaatataaa cctgcaggag   2880

catggtgcat atccagaaat ctccagtcag tcaagcggcg aatggcagtg ggtgttgcct   2940

gtaggggcag tggtttcgcc aagcgcctta ttttgggttg cccaccagtt acgccagaat   3000

cctgattgtt tatggatata cggtgatcac gatctgcttg acgagagagg tgaacgtcac   3060

tctcccaact tcaaacctga ttggaatgaa acgctgctac agagccaaaa ctatattagt   3120

tggtgtggtt tgtggcgtga acaaggtgct ggccgtgttc cctttgatgc ggcgacatgc   3180

catcagtggt ggctacagtt ggcaaagatg tgtgaaccga aacagatagt ccatattcca   3240

tcattgatga tgcatttgcc tgcaagagcg ttgatttcgg atgattttga gtcgctgaaa   3300

gataaagaag atttactgcc atcaggagtg agcattgagg cagcacctca tggtgtatgt   3360

cgttggcgct ggccgttgcc agcgcaattg ccattggttt cagtgattat ccctactaga   3420

aatggtattg ctcatttacg cccttgtatc gaaagcctga tacaaaagac gcaatatgcc   3480

aatatggaag tcatagtgat ggataatcag agcgatgagg aggagacgct tgcttatctt   3540

gctcatatcg aacaggttta tggcgttagg gtgatttctt atgatcaacc gtttaactat   3600

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tcagccatca acaatctggc agtgagaaac gcacatggag atatgatatg tttgctgaat    3660

aatgatactc aggtaatcag tattgactgg ctggatgaaa tggtttctca tttattacgc    3720

cccggcgtgg gtgtggtagg agcaaagctg tattacggaa atggcttgat tcagcatgca    3780

ggcgatgctg tcggccctgg cggttgtgca gatcattttc ataatggttt gtcagctaac    3840

gatcctggat atcagcgtag ggctgttagt gcccaagagc tgtcagctgt gactgcagct    3900

tgtttattga ctcataaaga gttatatctg gcgctcggag gacttgatga aacgaatttg    3960

ccgatagctt ttaatgacgt rgattattgt ctcagagttc gagatgctgg ctggagagta    4020

atctggactc ccttcgctga attgtatcat catgagtcta tttcccgtgg taaagatgta    4080

tcaaaacaac agcagatacg agcgaaatct gagttgcgct atatgaaaaa acgatgggca    4140

tgtgcactta aacacgatcc agcctacaac caaaatttga gttatgaacg tcctgatttc    4200

tctttaagta gagctcctaa tatagtattg ccatggatga attaattcgc aggaaactat    4260

ttaagcctta tcgtaaatta aataaacaga gttatagaag tccgcaaagc tctgagatta    4320

actttgaacg attgtttata ttacatgagg gaaaatcacc tacattagcc tattttgaat    4380

cggctattat aagtcggttt cctgatgcag aatgtcattt tatcgacaca ttagcatcca    4440

ctgatatatt tattcctaga ggatctgccc ttgtcgtcat tagattcatc tccccaaaat    4500

ggcaacagca catagaaaga tataacgaca ggttttctcg aattgtttat tttatggatg    4560

acgacctgtt tgacccgact gcactatcta cgttaccaaa agagtatcgt accaagataa    4620

taaggaggtc ggcggctcag catcgatgga ttacgcaata ttgtgataac atttgggttt    4680

caactgccta tttggctaat aaatatgcac atcttaaccc ggagattgtt tctgctaaac    4740

cgtcactggc actcattgaa acacatcgat cagtaaaaat cgcttatcat ggctcaagtt    4800

ctcatcggga agaaaaatat tggttgagac aaatc                               4835
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<210> 59
<211> 1746
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (9)..(9)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (35)..(35)
<223> n equals a, t, g, or c

```
<220>
<221>  misc_feature
<222>  (877)..(877)
<223>  n equals a, t, g, or c
```

```
<220>
<221>  misc_feature
<222>  (1746)..(1746)
<223>  n equals a, t, g, or c
```

```
<400>  59
gaaaaatgnc ataaccgcat tccatcaagc ccgtnaatat cccggacttt catttatttc      60

tgaggcgtac agggaagcaa taactgctgg tcagatattg ctgtctccgg tacatttacc     120

tgacactgta tttttccatc ccagtttacc gacagggttt cccccggcgt cacgccactc     180

agccaggcaa ggccttcgtc ggccaccatg cccagttccc ggcctttttc actggttaca     240

ctggcaccaa acgggggctg agagccatca gcaagacgca gtattgcaaa cagacgtttc     300

cctttaagca cgctgaattt ccggtaacca atggcacctt ctgtcagcgc cgattccaca     360

acagaacggg ttgcttccac atcatccggt aagcgcttca ggtcaacaga ggttgtattc     420

cggtaataac tgctgatgtc agtcaccacg cccgttcccc agcgatttgt caccacctgc     480

ccgccatcaa ccggtacacc tcccacacca tccgtgtcaa caagaagacg tgttccaccg     540

gacattcccc ctgcatgtaa cgccgcacct tttccggtaa ttgttgcccc accggaagca     600

ctgacgccga aagacgtata tcctttctgc agggatgcaa tattcgcgga caaatttgcc     660

agcggactac gatgactgta ataggcatta atctgacgtt gcgatgtcag tccaccgcca     720

ctgttaaggc cggcgttcag gctgtagctg tccagaccgt cattgaacgt gwcagtgtag     780

ccggccatat tcacataacg gtcattactc atactgccac tgtagctcgc tgtccccgtc     840

ccccagcggc acggatatac gcaggtaagc agaatcntta tcacgcccca gatatttaga     900

ccttgaggct gacaatccaa ccgccacacc ctgcagtccg aaaacattaa agtagcggtt     960

gacgctcacc gtataatagt ccgttttccg tatgtcccag tatgtctgac ggctgtactg    1020

caggttaaaa gaggtgttcc agtccgccac gtttttattc agcgtaacgg tatacatctc    1080

tttttcccga ctgctgtaat cattacggta gcgggcgttc aggtactgct ccatggtcat    1140

atagtttcgc tctgagaaac gatacccggc gaacgtaatg tcggcatccg cattatcaaa    1200

ccgtttggag tagctcagac gccaggattt tccctgaaac gttctctctc cctcaatacg    1260

ggctactgac tgcgtgatat cagcggaaag ggtccccggc acacccaggt cccagccggc    1320

accggctgcc agtgcattat aatcaccggc aagcacagcc ccgccataca gcgaccactg    1380
```

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gttactgagc ccccaggatg cctctccggt cgcaaataca ggcccttcgg tctcatgccc    1440

gtatccacgg gaacgaccgg agacaagttt gtaccggacc tgtcccggac gcgtcagata    1500

aggaaccgag gccgtatcga cctgaaagtt ttcttccgtc cgttctgttc aataacctca    1560

acatcaagac gtccgcgaac tgaactgtcc aggtcctgaa tactgaatgg ccctgcgggg    1620

accatcgagt cgtacagcac ccgtccctgc tgcgacacca caacacgggc attagtctcc    1680

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cagcgn                                                                1746
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<210> 60
<211> 723
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (473)..(473)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (636)..(636)
<223> n equals a, t, g, or c


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acgcccgcta ccgaccgtgc cttccgcctc ttctttagcc gccgtgagcg tgccgctgac     180

ctgcttcagc acatcgacca gatcttcggc tttgctgtat ttgagataga aaacctggct     240

gttgccgctg cgttccattt ctgagtccag ccgacggatc aggcggcgca ttttgtcccg     300

cgtggccggg tcaccactga caatcacact gttggtgcgt tcgtcggcga caatttgaga     360

tttcagcgtc gcaggctggt tctcgccgct gtttttagtc aggctttcca gcacgcgggc     420

gatttccgaa gcagaggcgt tatccagcgg gatcacctct tcagtgcgat tanccgcgtg     480

atccacacgc tggatcactt ccgtcagccg ctccacgacg gaggcgcgcc cggtgagcat     540

aatcacgttg gagggatcgt aattaacaac gttgcctgag cctgcgctgt cgatcatctg     600

gcgcagaatc ggtgccagtt cgcgtaccga aacatnacgt accggcacga ctttggtgac     660

catttcatcg cccgcgtatt gtcgctgcct tcaccaacca gcggcagggc tcgactttcg     720

cgg                                                                   723
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<210> 61
<211> 2556
<212> DNA
<213> Escherichia coli

<400> 61

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atcagcacat agtgcttcag ttcatcatac agcgggcgaa gctgctctcc catgatgtca     180

acccagcgcc ccatcgtatt gcagtgcagc tccacgccct ggcgggcata gatttccgac     240

tgacggtaca gcggcagatg ctcggcgaac ttagccatga ttatgcgggc cagcagagcc     300

ggactggcgt aactgcgctc gatgggtttt ggtggctgcg gagcctgaac tatacagtcg     360

caccggctgc aggccagttt tgggcgaacc gtttcgatta ccctgaacgc ggtgttgatg     420

atatccagtt gttcagagat gctttctccc agcggtttca gtttgccgct gcagacgggg     480

cattcggttt ctgccgggga gataacctgc ctgtcacggg gaagtgttgc cggaagtgct     540

ttgcggacgg gagagtctga tgttttcggc gctgtctctc cggccattga ggtgagttgc     600

aactgcgcct caccaagcct gttctggagc tcggttatac gcgtttctgc ccgtgcgatc     660

ttcttttcta tcttctcgcg gcttttctcg ctgctgcgac cgaacaacat tctctgtagt     720

ttagcgacca gcgctctgag tgagctgatc tcgcggcata gccggttatt tcaccagaca     780

gacggacgat aacagcctgc tgtgcgatca gcagggcctt cagttgctcg atgtcgtcgg     840

ggagtgtgtt gttcattccc ctgtttatc acgggttata tccggatgcc aggccgttct     900

gtccgtttgg gatgttgcca cgcgatcccc tccagtagca tggataactg agctggcgtc     960

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attcctgtat gtcatcatcg ctcagtaagc cgtcctcgta ctggcttttc catttaaaca    1500

gcaggttatc attgataccg tgctctctgg cgatccgggc aacaacagca ccgggctgta    1560

atgcctgctt agccagacgg accttaaatt cacggctgta gctggctcgc cgttcttttc    1620
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cccggatggt cagtttatct tcaaatctta aacgcagagc atcaggcaaa taagaacgga   1860

agcagggaat atcttttttt gtctgggaat tcatcgttcg tgtccatcta tatagatggg   1920

cgcgattgtt gccagacagg acaattttca caagacgtcg cagatggggc gcttaccaga   1980

aatgcgcggg tacgacagtg actcgtcaaa tctcagttgt agcacacgcg ggatcaattc   2040

cggattgtct gccagtaccg cctttcgtgc attcatctta aatgtccctt tactgcaaaa   2100

atggacatta gtatcggaaa caggaaaggg aggcgaaaga cggtttaaat gagacggtta   2160

ccattgtgtc gggctgtgta cgttctcccc ggacagacag cctcagttcg tagaatctat   2220

aaattactgc tactgatgct gccggggaaa ggcgtaacga aaaaacagcc tccgttaccg   2280

gacagcaagg aggctgaatg gagtttacag gatttgcttt tttataatgt ctggccatgc   2340

agtaaaaccg gacaggtttt attatcatgt gaggtattct gacataaaat gctggatttt   2400

tattttgtga cgaatgctgc aaaattgcat ctgcactctg atgtagcttt tatctgtttc   2460

agtgaagcat gcccacaaac tgagttatta agttgtggaa gaacagtttt gtcccgcctg   2520

catctctcct ttcaaaaacc agtatgtcgc catgcc                             2556
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<210>   62
<211>   790
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (19)..(19)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (29)..(29)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (57)..(57)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (765)..(765)
<223>   n equals a, t, g, or c
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<400> 62

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gaacagagtg aggaaatatt acgctggtac acagccggct caaaaacagt aaagattgag         180

agcaggttgt atggtgaaga gggaaagaga aaacccgggg agctatctgg ttctatgact         240

atggttctga gtttcccctg aataagatga tggattatct gactggctgt tcatcagtcg         300

gataatgatg aaaactgatg agcaacaggt tgtgcgggca atgtgcagga tccgtcacca         360

aagggtggaa gttgcgggcg actcagataa acgggttaca tgagctattt ctggagtttg         420

acgaagccgt ctggaaggga gaagaggcga ttccattgat gtctctggaa aacatctgtc         480

agtcgtgctg ctggaaatat tgatagagca atgggaatgg ttatccaaca ttgatgaaca         540

tattgtatat ttacagaaat ttttaaaaac aggactcagc aggttaaatc gtgtaaaaat         600

tactcatgaa taccattatg ggcttacaaa gcgatgtggt taagcagatc ttattcaggc         660

ctgtgcagcg taggattaca ataggatcga ataacgccat acaggggaat gggagatagg         720

ctgattcatc ctgtggctat aaccaggagc atatcgggaa tcmantatgt taccccagat         780

ggaacaccat                                                                 790
```

<210> 63
<211> 10906
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (856)..(856)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (4922)..(4922)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (6875)..(6875)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (8094)..(8094)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (10800)..(10800)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (10849)..(10849)
<223> n equals a, t, g, or c

<400> 63

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gattggtaat ataatcaata agcctgaaga agctaaagcg ttaatcaagg caactgaaaa     180

tggctgcaga atggtgagta accggctgca acttctaccc gaagagcagc gtgttcgtgc     240

ctatatggcg aatcctgaat tgaccactta tggttccgga aaatatacag gattaatgat     300

gaaacatgct ggcgcagtaa acgtcgccgc ttccaccatt aaaggtttca aacaggtctc     360

gatagagcaa gtcattgaat ggaatcctca ggtaattttt gtgcagaatc gttatcctgc     420

tgtagtgaat gaaatacagt caagcccaca gtggcaggta atagatgctg tcaaaaatca     480

tcgtgtttat ttgatgccag agtatgccaa agcatggggc tatccgatgc ccgaggctat     540

ggggattggg gaattgtgga tggcgaaaaa gctgtatcca gaaaaattca atgatgttga     600

tatgcataaa atagtcaatg actggtatag aacgttttac cgtactgatt atcagggtga     660

agactaatgc gagtgcttgc tgcgggcagt ttacgccggg tatggaaatc acttgtgtca     720

gagtatcagg ccgataatat acagtgtgat tttggaccag cgggtatatt aagggagcgt     780

attgaggtgg gtgaggcatg cgattttttt gcatcagcca atatgactca cccacagata     840

ttaatgtccg caggangagc attgtgtatt aaaccttttg ccagaaatcg tttgtgtttg     900

tatgttcggg cgaataaatt caatgagaat gacgactggt attctttatt aaatcgggaa     960

acattgcgaa tcggaacatc aacggcggga tgtgatccat ctggtgatta cactcaggaa    1020

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gggcgggagg cattcgtttc ctcttccagg aaatgcgata gcagcgcagt ggttaattga    1140

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aggtatactt gaacagcatg ggtttatgcc tccaggtacg ttatagcccc ctgtcttaca    1380
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gattgtcacc aggtttcctg cacttgtcag caacgtttcc catcctttca cccagccttt    6960

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aacggaggtt gcacggatcg actccggcac caggttttgg ctttctgcgg gtgcatcatc    7200

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gtggcggttg ctgtttcaa catcgacagt gatccccatc gggcgcaggc gagtcattag   2100

tgggatgtaa aaactgttac gggtgtactg caccatccgt tccaccttac ctttagtctg   2160

tgccctgaag gggcgacaca gtcggggaga gaagcccatc tccttgccga actgccacag   2220
```

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cgaaggatgg aaccggtgct gaccggtctg atatgcgtca cgttgcagaa ccacagtttt    2280

catattgtca tacaacactt cgcgcggcac accaccaaag aagcggaacg cattacgatg    2340

gcaggtctcc agcgtgtcat aacgcatatt gtcagtgaat tcgatgtaca gcattcggct    2400

gtatccgaga acagcaacga acacgtgaag cggtgagcga ccattacgca tagtgcccca    2460

gtcaacctgc atctgtcgtc cgggttcagt ttcgaaccga acggcaggct cctgctcctg    2520

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gcgttgacga atataatccc ggtattcatc caggagtgaa gcaacagcag gtcgcggcgt    2700

atattttggc ggctcagatt ttgcctgcaa ataacgttta accgtattgc gggagatccc    2760

cagttctctg gcaatcgccc ggctactcat tccctgcttg tgcaggattt taatttccat    2820

aactgtctca aaagtgacca taaactctcc tgaatcagga gagcagatta ccccctggat    2880

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gttgcttgtc gcaggtaata aggtattcgt tcaacaaact cggaacgtga taaaggctga    3600

tgctccagca aaacctcaag cattgcgggc cgcaacaaac gacgctcagc atcaacattg    3660

ggaaacttaa cctcaatggc atatgtggca aaatacttaa gttgctcctt aagccccaaa    3720

ttaggcataa gagaatcaat tgagccagac gccactgcag cgcttgattc aattgtttct    3780

acatactcgt aggaaggtac aacaacatct ggagccaatg tttttaagctc atggagttga    3840

cggataatcg gggatagaac ctcatcagga ttactgaacc aatcagtgga ccaaatacgg    3900

ctaattctcc accccaaacg ctccaaaacc tcttgacgca aacgatcacg ggcagattta    3960

gctgaatgat aagccgcacc atcgcactct atacccatta agtaacaacc cggatcttct    4020
```

```
accgacagat caataaagaa tcctgcaacc ccacctgagg ttcacactca aacccagcgt   4080

gattgagtgc ttccattata gcaacctcaa agtcactatc cggagccctg cccgtatacg   4140

tcgtgaggga atctaatttg ccactttcgg caaactgtaa aaaacctttc aacgaaataa   4200

caccaaattt actggtttca ctcgtcaata catcttcaga acgcattgaa ctaaacacat   4260

gcatccgttt ctttgatcga gttaaaagca cattcaagcg gcgccagcma acatcggaat   4320

tgacaggccc aaagcgttaa taaacctttc caccatgctc agaaggtcca caggtaaagg   4380

aaataaagat tacatcacgc tcatcacctt gaacgttctc aagttttttc acaaaaagtg   4440

gctcttccat ggcatataag ccatcaattg catcgttaaa ttcagtgcga tttcggcgca   4500

attcatcaat agcgcgctca atctgatcgc gttgcctgga actcatggcc actaccccaa   4560

gagattcatc cagccggtgt tgcgcatgat gaagtacagc ctcagcaact gcttgggctt   4620

cttcaatatt gtgttgatta gagcaacgac cttttgatac ataagtaaat ttgattccat   4680

actctggaga ctcagcattt ggagaaggga atatcaccaa atcactgtta taaaaatggc   4740

ggttagagta tgcaattaac ttttcgtgtc gtgaacgata gtgccaatgc aaacgtctca   4800

taggaaacag tggcaaagca gcatccaaaa tgccgtcagt atcacttaaa gccgcgacat   4860

catcgtcatc ttctccggcg gaacttcgat ctgaagtggc acactgaatt tggccacctg   4920

aacagaggtg atatgctcac ctcagaacaa cacaggtgct ccaatgaaaa aaaggaattt   4980

cagcgcagag tttaaacgcg aatccgctca actggttgtt gaccagaact acacggtggc   5040

agatgccgcc aaagctatgg atatcggcct ttccacaatg acaagatggg tcaaacaact   5100

gcgtgatgag cgtcagggca aaacaccaaa agcctctccg ataacaccag aacaaatcga   5160

aatacgtgag ctgaggaaaa agctacaacg cattgaaatg gagaatgaaa tattaaaaaa   5220

ggctaccgcg ctcttgatgt cagactccct gaacagttct cgataatcgg gaaactcaga   5280

gcgcattatc ctgtggtcac actctgccat gtgttcgggg ttcatcgcag cagctacaga   5340

tactggaaaa accgtcctga aaaaccagac ggcagacggg ctgtattacg cagtcaggta   5400

cttgagttgc ataacatcag ccatggttct gccggggcaa gaagcatcgc cacaatggca   5460

acccggagag gctaccagat ggggcgctgg cttgccggca ggctcatgaa agaactggga   5520

ctggtcagtt gccagcagcc tgcgcaccgt tataaacgag gtggtcgtga acatgtcact   5580

atcccgaatc accttgggcg gcagttcgca gtgacagagc caaatcaggt atggtgcggc   5640

gacgtgacgt acatctggac ggggaaacgt tgggcatacc ttgccgttgt tctcgacctg   5700

tttgcaagga aaccggtagg ttgggcaatg tcgttctctc cggacagcag actgaccatc   5760

aaagcgctga aaatggccta ggaaatccgc agtaaaccag ccggggtaat gttccacagc   5820
```

```
gatagtaata atgccggtat cagtttttat catcactctg tttgctgttt aaccagactg     5880

gtgtgattac tgatgcagtg aagaccttcc cgcatcctga ctcacacagc gatcgaccct     5940

ttgtgtcctg ccctggacct gtcggttgcc ggaagcgcct tcatgcgagg cgtctcctca     6000

ccgatgcgcg tgactcaaga agggcctgac ggtttgtctc gttactgtcc tgtccgggtt     6060

atctgtctgg agattcaact ctgtttcctc acaggagctc tgttatggca ggtaaagtta     6120

cggaaaccgc tgttgtgggt ggcgtggata cacataaaga tctgcacgtt gccgctgtcg     6180

tagatcagaa caataaagtt ctggggaccc agtttttctc cacaatacgg caaggttacc     6240

ggcagatgct ggcatggatg acttcgtttg gggcattaaa gcgaattggt gttgagtgta     6300

ctggcaccta tggatcaggt ctgcttcgct atttacagaa tgccgggtta gacgttcttg     6360

aggtgactgc gccagatcgg atggagcgac gcaaacgggg taaaagtgac acgattgatg     6420

ctgaatgtgc cgctcacgcc gcattctccc gaataagaac cgtcacaccc aaaacgcgca     6480

atggcatgat tgagtctctg cgggtattaa aaacttgccg aaaaacagca atatcagccc     6540

gcagagtcgc tctccagatt atccattcca atattatctc tgccccggat gaattacgtg     6600

aacagctcag aaatatgacg cgcatgcagc tcatcaggac tctgggatcc tggcggcctg     6660

atgccagtga ataccgcaat g                                               6681
```

```
<210>   66
<211>   1342
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (1238)..(1238)
<223>   n equals a, t, g, or c

<400>   66
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cccaatgggg atagctttga gccaggacag aatccagaca ggcacgcamg tagatctccg     120

ctggattata aacaggaatc acaatagata taactggagg gtgagtcata ctggcaagca     180

tcagactcac cwcttckttg ccaggcaacg aaggtaattc caccgtttct atccattcct     240

cataaccgac agaagacggg gtaacgctga acgtytcgtt atagaatgct tgcaggcgct     300

ctattgacat atcgccattg tscatcaata tggattttwt gattttttct agcggcatgt     360

cacgatagct ttggtgttct ttttgaatgc gagccaatag tgcagactcg actactttca     420

catcaacagc cgctatttca aactgattaa ttgcaaattt tgctgcctgt tctaatggat     480

caaatcgtaa tgcacaagag gcgattccag atagaacaac gactgacgct gaccgctcgt     540
```

```
ttatatggca acgttactgt ttcaaactca ttgaacccctt tacctgtatc caaatrtaac    600

ttagctaatc cttgctttgg ttgggcaatt aatagagata ttaaattgat accatccctt    660

gctaatattt gagagctgct ccaaatcaat aatgaaaaat ggatcatttc cctctgcaac    720

ccaactttgt gaattatcta tatctatcga gagctgattt gttgccagat agggcagcac    780

aactgtattt tgcattttac tcactgcagg agaaacgtcc catgcttcgc atggtttcct    840

accaagtaac atcccataac gcttaaaatg ttctcttgct gacaacccgg tctgtttcac    900

atccaaatag ttatgcagat accaatgttc atcaaagtga gctagcaact cgtcttggtg    960

atttttaacc atcacttta ttctccctta ttgacaggca ggcaactgcg ctgctcaaac    1020

ttccccataca taatgtaatg aagcagcgga ttaatgcctc cttgggccac atccggatag   1080

gtttgcaaat accagcgagt atcaaactgc tcactagggc tataaccttt atccgccccc    1140

acgctaataa aatgctcaag agctgagagc ccagtgtctg caacctctgg gtagcgatgt    1200

tgataccaga gttcatcaaa caatcctgaa gcggcaanta ctccgcggca ctctctgtag    1260

ctgttgttct ggatggagtc tcctccttaa atgttctgcc aagagcacga actggggctg    1320

taatcttcca agagacggtt ct                                             1342
```

```
<210>   67
<211>   1580
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (14)..(14)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (18)..(18)
<223>   n equals a, t, g, or c


<400>   67
cgaaggaagc agtntgcngc ctgcgctggc ggagttgcgc ctgttcccac cgatgatgct     60

gtacatgaat cctccggcga acagagcggt gaactggaaa ccatgcttga acaggccgcg    120

gtcaatcagg aacgggaatt tgatacccag gtggggctgg cgttagggct gtttgagccg    180

gcgctggtgg tgatgatggc gggcgtggtg ctgtttatcg tcatcgccat cctcgagccg    240

atgctgcaac tgaacaatat ggttggaatg taatttacgg agttatcaca tgaattcgtt    300

atcccgcaca caaaaaccac gggcaggttt taccctgctg gaagtgatgg tggtgattgt    360
```

```
tattcttggc gtcctggcaa gtctggtggt gcctaacctg ttgggcaaca aagagaaarc      420

cgatcggcaa aaagccatca gcgatatcgt ggcgctggag aatgcgctgg atatgtaccg      480

actggataac gggcgttatc cgaccactga gcaggggctt gaggcgctga tccagcaacc      540

ggccaatatg gcggattccc gtaactaccg taccggtgga tacattaaac gactgccaaa      600

ggatccgtgg ggcaatgatt atcagtatct cagcccgggt gaaaaagggc tgtttgatgt      660

ttataccctg ggggcagatg gtcaggaaaa tggggagggc gctggcgcag atatcggtaa      720

ctggaatttg caggagtttc agtaatcagt gcctgaacgc ggattcacac ttctggaaat      780

catgctggtg attttcctta tcggccttgc cagtgcgggc gtgatacaga cgtttgcgac      840

cgcttcagag ccgcctgcga aaaagcggc gcaggatttt ctgactcgct ttgcgcagtt      900

taaggacagg gcagtgatcg aagggcaaac actcggtgtg ctaatcgacc cgcctggcta      960

tcagtttatg cagcgtcgtc acggacagtg gctacccgtt tctgcgaccc gcttatcgac     1020

acaggttacg gtgccaaaac aggtgcagat gctgttacaa cccggcagtg atatctggca     1080

gaaggagtat gcgctggagc tgcaacgtcg tcgcctgacg ctgcacgata ttgaactgga     1140

gttgcaaaaa gaggcgaaaa agaagacgcc acagatccgt ttttcgcctt ttgaacccgc     1200

cacgccgttt acgctgcgct tctactcagc ggcgcaaaac gcatgttggg cggtaaaact     1260

ggcacacgat ggcgcgttat ccctcagtca atgtgatgag aggatgccat gaagcgtgga     1320

tttaccttgc tggaagtgat gctcgcgctg gcgatttttg cgctggctgc cacggcggtg     1380

ttacagattg ccagcggcgc gctgagtaat cagcacgttc ttgaggaaaa aacggtagcg     1440

ggctgggtag ctgaaaacca gaccgcactg ctctacctga tgacccgcga caacgggcg     1500

gtcaggcacc agggcgagag cgatatggca ggaagccgct ggktctggcg aaccacacca     1560

                                                                      1580
ctgaataccg gtaatgcgct
```

<210> 68
<211> 3241
<212> DNA
<213> Escherichia coli

<400> 68
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cttaaccatt acccagcatt ggtagttaa atagtcgtta aaagcataaa acatggacat       60

tgtgccatcc cagctaaagc atccattacc gcctgacagg gataaaaata aaaaagcagg      120

gaaccatttt ttcatcagaa atcacttccg taattacagt tattcattta ggtatgactc      180

agttataaat catgctcata ctggccgtgg tctggraatc cccgccattc agtatcccgc      240

tgccattacg aaagggcact gaagtaaagg tgaacgttga acgtgctgtg tccagacctg      300

ctgtcactcc gtaaccattt cctgaaccat tacctaatat aagaggtgtt gacattcctt      360
```

```
ttccctgata cagcgctata ccaaaatgag ttatatttgt tgccagtaca ttattctgac    420

ctcctcccat agtatttccc gtaactttta tccagagaga gccactctta tacggacagg    480

atatgcttat ggtttttgtg acttcaccac gtgagttgtc cacgtgctca ggattaatat    540

tcccaaaatc aacaacaata ttctgcccgt tattaatggt gcatggggggg atataaacat    600

tcccctgat gttaatctgc acatcagcca gtacagcgac cgatgtcaga agcaacgata     660

taaataatga taaacgaatc attccctcc ggagagcggt acagaaaaca ttttatttta     720

cgagatataa aattaacgta ttttagttga tactattacg aatatgatgc aaccagcgtt    780

gctgttgcag agaaaggacc ggctatcaaa ttctgcatat tccctttata tccaagtttg    840

gcatgaagtg atatagtttt atctgcatta ttacctgtga tttttccggg cgtaaatgga    900

gtccctaaag ttatcgcagt cccaatattt cctgcattac tgttataaag ataaacgagt    960

aacccatcag aagatgtgtt tgatgtattc tgaactaaaa tagcattgtt ataagtgttt   1020

gttgccgtta tcgtaacctt cattgttccc agattatagg gacaccgcat attcacagta   1080

aactctttt cgtgatttcc attttgactc agggtctgaa tctctacatc ctgccagtca    1140

acagttgtgt tgcttacagt acaggcagga ataatcagtt ttcctctgaa ggtcagatta   1200

tcaactgcat gtacatgctg agacattaac actgcccca gcattaccgg aagacacaaa    1260

cctcttatct ttttcatctg aaatatcctg tacaaaaatt ttgctaacga tatgtcaatt   1320

caaacgtggc tgttgcttca taatcaccgg gtaccacact cttcgtccgc aggcttccgg   1380

cgttgccaca acatacgcgc cgaaaggaag ctcaagactg tttccggtaa ccttttcccc   1440

ctggcctttg ttatgggagg tgccgggttt cagcagactg ctgccatcgg tgtccagcag   1500

tgcaatgcct aaccggccag cattcactcc ggttaccttc agatggcccg ggagggcgcc   1560

tcttccgtcc ccttaaaggt cagggtcaca attttgccaa ctgctgttgc atggcagttt   1620

tccagcctga tgacaaacga ctctgtcggc gaacgtccgg gcggatacca gaaatccctg   1680

gacgcccggg ttttgaagac gacatgttta ttcagactgt caccggacac atggcagggt   1740

ctgtcaagca gattacccct gaatgccaca tctgaggcta ttgcctgtcc ggcagacagt   1800

gcggcaaaca gtaaaagagc gcctgtgctt tttatcatca cattcccta ctcatatttt     1860

atgctcagac gcagcatggc cggattgctc ctggcatcag aatactcacc ctcctgtgtc   1920

gcccttttcc tccaggcggc cagcatctcc tcctgccgcc ggtcaggccg gcacagtaaa   1980

aaggtatcac catcgtgtat aacaagatgg tcacagccgg atagcttacg gtcaggaagt   2040

aaagcacttc cgcttccggg accggttacc agtgagccgg agactgtcat cgcaacgccc   2100

cgtttttccgg gctgaagtgc accaccgtcc ccacatcctg ccagcctcag catcagaggt   2160
```

```
gctccggctg ccgcagagtg attttccggc cggaggytta acggcacctc attactcacc    2220

agcgtgcagg gtgaggacag cagtgcacca ctgacggtca ggcttccggt gcgtcccccc    2280

cgttcattta tccggtaatg acgcaactca tctgcagtaa agacgtcatc gtatataccc    2340

cgctcttcag cccgcaggaa agtatggatg aaaccactca gcgacagtgc aataagatac    2400

agtactgctg ttgttttatt cacaaccata atatcccacc cgcatttaac cgttattgcg    2460

gtacattatt tctctttttt cacagagcaa cggctaccat tacagataaa cgacagtacc    2520

gggcgaccac catagtcatt aatataagac agataagggg tattataatt tgccgatttt    2580

actgtctgct ctgaacgggg agacagcatc acggtttcaa actcaccttc ctctgcctgc    2640

ttttcacttc ctcccagacc aataacagtg acataatagg gcgttgggtt ttcaatacga    2700

tacccaccgc tgactttgtt cagaattaac tggtcctgcc atacttcatt tggtctggtt    2760

ttaattgctg ccgggcgata aaaaagcttt attttggtct gtaaggctat ctgcagtaca    2820

ttggcctttt cactcctcgg cggtatttcc ctgagattaa aataaaacag tgattccctg    2880

tcctgaggaa gtttactgat atccggtgtg gtactcagcc tgaccatgct tttcgcaccc    2940

ggctcaaggc gctgaaccgg aggggtggca ataaccggcc ctgtaataat ttttcctga    3000

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tcaagcgtca ttgacttctc actcccgtca aacaccgcgc gggttctgtc cagcgaaaca    3120

gcagcgtctg ccccggatat aacaaacagg gggatggcag ccatcagaat ctttttttcga    3180

atcatactta atttccacat tctgtaattt cacctggtcc ggaaaatggc ataaccgcat    3240

t                                                                    3241
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<210>  69
<211>  398
<212>  DNA
<213>  Escherichia coli

<400>  69
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acgcggcagt ttgcccggtt tacggaccgg tacaaagcca acgcccagac ccagagctac    120

cggagcgcca aacaagaagc cacgcgcttc ggtgccgaca actttggtaa tgcccgcatt    180

tttgtaacgc tcaaccagca agtcgatgct gagagcgtaa ttttcgggtc ttccagtaag    240

ctggtgacat cgcggaaaag aatgccgggt tttgggtagt cctgaatgct tttgatgcta    300

tttttgagat actcaagctg ctgtgcatcg cgggkcataa gtgtatgcct gcttgttacg    360

gtggtactca cggcgcgttt ttaaacgtat caaaagtt                           398
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<210>   70
<211>   17710
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (6)..(6)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (8)..(8)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (4490)..(4490)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (4661)..(4661)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (7318)..(7318)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (11186)..(11186)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (17685)..(17685)
<223>   n equals a, t, g, or c


<400>   70
cagttncngt tctcatagac agattgataa aatcgtaaac agcccctagc attcccgttt        60

cctttgcaca catattcagg cacggggata aagtataaag aatgtcgtac tgctgctacc       120

agagcaatat tcccccctga tggccgtatc agagatagta tgccggtatt ttgcgggtgg       180

ttcccgtcag gttatcgtgt acctccacgg tcgtagtcac caccggcatt ccggcytttc       240

tcagcctcaa aacatcagct gcaatacgct gactgccgaa ccagaacagg ccgtccagtg       300

cagtcaccag caaccccgcc tccagcgcat gcttcagccg ttcacggggc gctttcactt       360
```

```
cccgggcaat ctgctggtat ggcgatgatg tgttttcatt cccaatcacc cggcgaatac    420

gatgagacag atgataccgg tatgtatccg gcacaccgga aaggctggcc ttcaggctgt    480

acacgcagcc aaatcgttta tcattgaaca ccacattttt ctggctgatg ccccattctt    540

cacgcagcgc ggcaatcagt tgtggtgtac gggtaagcaa caagcgaaaa ggcagttcaa    600

aactggtgac ataatccaca ttcaacaggg caatgcgaag tcgttcttct ggtccggctt    660

ctgtctgccg gcactcctcc aggacatcct gccactgcag gcgaagacgg gaagactcat    720

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tccggtaagg tcgtcggcca gcgccacggt gacagtcaca ggaactgatg cagaagactc    5820

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ccatttggtc ggattcgagt acaggctgat ggtttcagta accttctcac cttctgccga    5940

taccgctccc ggatacttct cgacatcaac tttgatgttc agatcccacc aggaacgacc    6000

cagcatcagg cgcgtcagcg gtttttccat atagttgagc ggatagctcg ggttcatcat    6060

gcccgcttta ttaacgctct tctcgccgta gatcatgttg ttatcgacca gcgatttttt    6120

cagctcatca gaaacactgc gtgccgccag tataggcatc gttggcgtag cagttcagga    6180

actcggtgaa cgttttaaag cccagctcgt catccttgtc gtttttcatag cgatattcaa    6240

ttttattcca cagccagacc gacatgttct ggtacagacg ttccagatcg acgctgctca    6300

gacgctcacc tttgcgacca ttggtccgga agtagagctc atgctgatac agacgctgaa    6360

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gttgcgtata ctgtggaaca tacatgccac cagtaaccgg aaccccgtg ccaggacgat     6480

attccagaca gttgacctcg tagtggtaag ttgggtcctt acactccttt aatccaggaa    6540

acttctcaaa gatttttgcc ttcgcagcct tcagagaatc ctctgtttta tgatcggcct    6600

catcaataaa ggcataacgc gtttcctgtt tgccatctac atcttccagc cagctggcaa    6660

cttccagctt cggtttgtca tcaggtttgt tttctacctg atatttccac ttaacttccc    6720

ctgtcttact atcgatggtg tacggcagcg caccatctac ggcaggataa cgttcataga    6780

cccaaatgcc cgttgcgcgc tgctgacgaa cgcggttcgg ataccttgc ggatcc          6836
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<210>  74
<211>  1332
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (9)..(9)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (44)..(44)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (343)..(343)
<223>  n equals a, t, g, or c


<400>  74
ggaaaaacnc gccgtatatt agcccgcgcg gaaaaagccc cgtnacgggc aaacgcagca      60

aggttttatc ccagcgcagg cgcatggcag gatttttgag tagccgttgc cccagcacca     120

gaagccccag caatcccgcc agccagtaaa cgccgctggt ctgtaacgtg tcgctcatgg     180

cgatgagcgt gcgggtggag gcgggcagcg cgtgtccgag atgatcaaac tgttcgatga     240

tttttggcac cactgccgtc agcaaaatag tgaccacgcc cgttgccacc accagcagta     300

ccagcgggta gagcatggcc tgcagcaggc gtgaatttcc agnacctgcc gctgttacgg     360

tgtaacccgc caggcgattg agcaccacgt cgagatgtcc ggatttttct ccggcagcaa     420

ccatcgaaca aaacagggaa tcaaagacgc ggggatgttc gcgcaggctg tccgacaggk     480

tgtaacyttc ctgaatccgc tgcgcagcgc cattccgagg ctttttacat gcagtttttc     540

actttgctca ctgaccgcct gtaagcaggt ttccagcggc attgctgcct gtaccagcgt     600

tgccagttgg cgcgtgaaca gcgcaagatc tgccgccgcc acgcgacgat gtgcgtgccg     660

ccgacgctgc aacatccccc ctgacgaagt attcatccgg gcttcaatat gcacggggat     720

aagctcttta ccgcgcaaca actggcgggc atgacgcgcg gaatccgcct caatcatacc     780

tttggttttg cgaccattac gctccagcgc ctgatagtaa aacagtgcca ttacgcctcc     840

atggttaccc gcagaacttc atcgagagag gtttctccgg cgagcacttt ctcaatgccg     900

ttgctgcgga tacccgcaga gtgttgtcgg acataacgtt ccagctccag ctccccggcc     960

tgacggtgga tcaaatcacg caatgtggca tccaccacga tcagctcatg gatggcagtc    1020

cgtccgcgaa aacctttgtg attacaggcg ggacagccct gtggatggta cagagtgacg    1080
```

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gtacgggcgt cggtaattcc cagcaggcgt ttttcttcgt cggtggcagg cgcggcctga      1140

cggcagtcgg agcacagcgt gcggaccagt cgctgcgcca tcacgcccgt cagactggaa      1200

gagagcagga aaggctccac gcccatatcc tgcaaacgtg tgatcgcccc caccgctgtg      1260

ttggtatgca gcgtggaaag taccaggtgt ccggtcagtg aagcctgaac agcgatttct      1320

gcggtttcgg ta                                                         1332
```

<210> 75
<211> 4407
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (2638)..(2638)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (3425)..(3425)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (4227)..(4227)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (4256)..(4256)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (4300)..(4300)
<223> n equals a, t, g, or c

<400> 75
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gaaatcgctg atttggatgt catgattgcg gcaattgtcg atgarctggc gcctgaactg      120

attaaacgta atgctattgg atacgaaagc sttcgcagtt gctgatcacg gcaggagaca      180

atccccaacg attaagatca gaatcaggtt ttgcggcact gtgtggtgtc agccctgttc      240

ccgtatcttc aggaaaaacg aatcgttatc gacttaaccg gggtggagat cgtgctgcaa      300

atagtgcact tcacatcatt gccatcggac gtttgcgaac tgacgataaa acgaaggaat      360
```

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atgtcgccag acgagtagcg gaagggcata caaaaatgga agcaatacgc tgcctgaagc    420

gctatatctc acgcgaagtt tatacattac tgcgtaatca aaacaggcag ctcaacagca    480

tcccgataac ggcttgactc ttagaagggc gtccagggca gccactatac aagcaggcag    540

ttccggcagt tactgtggcg ttaccagatc aaacagagtc tgagtcgacg aggaaattgc    600

tgggataaca gcccgatgga gcgcttcttc aggagtctga aaaacgagtg gataccggtg    660

acgggttaca tgaacttcag cgatgctgcc catgaaataa cggactatat cgttgggtat    720

tacaacgcgc tcaggccgca cgaatataac ggtgggttgc caccaaatga atcggaaaac    780

cgatactgga aaaactctaa agcggtggcc agtttttgtt gaccactaca tttagtgcga    840

cacgggaagc gcgatatgaa cgatacgata catcaatggt ttattgcggt gataacctga    900

agggtgagat tgaggctatt tataatagtc ttgagaggcg tcaggtttag agcaggaatg    960

ctgagtagcc atcttatcga ttgttttcga gcgtaagatg gctgaatgga atggctatta   1020

ttgcacagtc cttaattata acattcatac cgacatgatt atcttctgtc cggaagaatc   1080

agaggctgcg gtttcagact gtctgccggt acattcctct ctccgttaaa aaccataacg   1140

ggttcattat cttcgtctgt cagcagattg aatggcggta tattttcagt acgaatgccg   1200

gtcagccact gaaaaatacc tgcgaaatga cgggcactga tttttctgct gacggactga   1260

tgagacgtga tgtcactggc ggtaataatc aggggaacgc tgtagcctcc ctgcacatga   1320

ccatcatgat gaacaggatt agcactgtcg ctgaccgaca gaccatggtc agaaaagtaa   1380

agcatggcaa aatgacggga atgccggcga aggataccat caagctgccc gagaaagtta   1440

tcccagttta ctgatgctgg cgaggtaaca ggcaattttt cggggatact gccccaggta   1500

atgattcggc caggagttaa gccggtcaca cgggttcgga tgagacccca tcatgtgcag   1560

gaatatcact tcggagagga tttatccgcc agtgcacgtt ctgtttcctg taacaacaac   1620

atgtcatccg ttttacggga agcaaagctg cctttcttga ggaaacggt atgctccgca   1680

tcagaagcaa taacagagat gcgtgtatca tgctccccca gctttccctg attggatatc   1740

caccatgtgc tgtatcctgc ttttgctgcc agcgccacca cgttgttgcc ggagtcaggg   1800

ttctgctcat agtcataaat cagtgtccgg ctcagggaag gtacggtact ggctgctgcc   1860

gatgtatagc cgtcaataaa taaaccggga gcagtattca gccacggtgt ggttggcacg   1920

ggatagccat ataccgacat ataatccctg cgcacactct caccagtgac gataacaatc   1980

gtgtcataca acggtacacc cggcaggatt ttccagttgt cagccccgtg ctgattcagt   2040

tgtttataac gctgcatttc acgcaatgtg tcagttgtcc ccacaacagt tcctttaacc   2100

atccgcaacg gccagctgtt tactgagcat aatacgaaca gcagcagtgc cagccagtta   2160
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cggtgaccgc ggtggtgtgt tcgccagaaa atcaccatga ataccagaat cgcggcactg   2220

accagaaaat gataaacagg aatcatcccg gtaaactccg ctgcctcatc agttgtggtc   2280

tgcagcaacg caacaataaa actgttgttg attttaccgt acgtcatacc ggcaggcgca   2340

tacagtgcac aacagaacag aaataacagc gctgtaatgg atgtgagggt atttctgtgt   2400

gcaagaagca gaagaaagaa cagcagcaac acattcccgg tggtattctt ctcagtgtat   2460

ccgcatgcaa ttgtggttat gacagaaaca acaaaaaaga ataaaaacaa tataatcctg   2520

agagtgttgc ccggacaaaa cagttttctg atattcatcg gagtatatcg acaacattat   2580

tatgaagaga acaggataat aaaaatcaga agttatctgt gaaacagata acagacancc   2640

ctgcagtata atattactgc agggtgttcc tttttaatta cagaaatacg taattatctt   2700

aattgcagaa atatgcgcaa ttatcgttca gaagcagtgt cgtcagaagt tataagtcac   2760

accaagcagg atgtcatgac ttttaacatc aacctctgat ttatatttat cccccttctgt   2820

atccttgtaa tacagggagg atttaccagc atccagatag cgatagctga ggtcaagagc   2880

gatatccggg gttacgtcat agcgaacacc ggccccaatg ctccatgcga agttgtcagc   2940

agagcctgag cgtgatatag aataacgcac tcgctcaccg tagccataat cccaactacc   3000

gctacctgtt gattcctgat gaattctggc gtaaccaatt ccggcagaca cccatggcgt   3060

aaatgcactg tcgtttctga aatcatagta cgcattcagc atcaggctgt tgactgacac   3120

ctcattcttc aggtcactat gtcccgcgtg gtccttatag aggttgtatg ttgtgtcagc   3180

ttttccacgg gcgtaaaact ccagttctgt acgcacagga atactgaact gcggatgcaa   3240

gtcataacca aacgctatac ctccactgaa taccgtgtta tggccatccc cccctatac   3300

tttgatgttt cctctttatt ttcggacagg aaactctggt cagaaagaga tactgctgaa   3360

gtacctgctt taccggtcag ataaaaaccg cttttacctt cctcagcacc cgcatttgct   3420

gcaancatac aggcagcggt aactgctgaa acagcaaaaa ctttttttcat ttcaattaac   3480

tccattattt cactattttt gtaaatagca ctcctaatat tttaaaacca gtcaaaagat   3540

agtatcaagc aaattattca tgtctaatga acagataaaa tcgactatgt gtcggcaaga   3600

ctctgctcca ccgatattcc tcttatttcc gcctcgatga ataccccg ttaccttatt   3660

tgtacccctt ataatgggat gttggccagc cagacccggc atgattagtt ctccctgtcg   3720

actatgctcc gggagggatg tcaccgggtc tggtgaggcg cggataaccg ctaataggg   3780

aaggtcaggt attttacacc gggaccgtca gggcaagata acgaaagcca gctccccgca   3840

tgaactgacg ccagatagtt tctgtccatt gctgcttttc tcatcttacg tcttaaccct   3900

gccttgaata ccttatctct cgtcaaaata ttaatagcga tatgccgtat ccctgaaaat   3960
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aatcccgctg cgtttcctct tcttacttgc agtcgtcttc attcattacc acgtccagac    4020

gccatgcagc ttattctcca cgtgccagtg atttcggatc gctgtgacga acttctctgc    4080

ggttaaatca gcagaactga tataatatct gaccattatt tctgactctt gcttttgttc    4140

tgctattatt gaccgaaagg agactgccag gcatattttt tcagcccttt ccattcaaac    4200

gtgaattcaa tcagctcatc agggacntcg ccaaaccata tgaagacggg atcctnctct    4260

gccgtgactc ttgtcactaa ttgcgtaaca gtcatgctcn gggataatta aatctttcag    4320

cggaaataaa aagattatca gatatgggga tgacaccaca gcaccgctga ggccagtatg    4380

gataaaccat gtaccttatt aaccaaa                                        4407
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<210> 76
<211> 824
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (687)..(687)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (807)..(807)
<223> n equals a, t, g, or c

<400> 76
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tttttttgcaa gagaatttcc ctgaacctga agctcatcat cgccatctcc gccgttcagg      60

taattattac ctgctccccc aattaactta tcgttgccat caccgccata gagctggtca     120

tctccgtttc caccactcag tgtgtcatta cctttatcac catataagcg gtcattcccg     180

tcatttcctt ctatatggtc atcaccatcc gcgccatgga agatatcagc aaatttactg     240

ccaaaaaact tgtcggcacg cgtggtccca ataagttctt ccacggaata taagttatca     300

gtctctgtta aattttttacc attgatatga gtgaattcat aactccgata ttgcgttttt     360

tcagttcttt ttccaactga aacctcctgc tccttcacaa cttcctgtaa aaccttaaca     420

tcaccaccaa gtacacgtgt taccgtgtaa ttacccgctt cggttgcttt tgtgccatca     480

atggtcagat aaccggtgtc tgttttatca taataaacaa catcatgtcc tttacctgcg     540

tagatattgg ctgagccggc agataaaaag accttatcat ccccgtctcc caggtgtgac     600

tcaatacgaa tttcccgata ctggttatta ccgactgatg catgctgaat caggttagag     660

taatcatata cagacccctt gtcctgnaac ccccttcacc gtccatttat caacaccctt     720

gactaataac tcggtaatat attcatattt tccggactgc ctcctttcac gaatttcctc     780
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accgggagtt taacaatggg cgtaacnaat ttgcaataac gtgg   824

<210> 77
<211> 550
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (2)..(2)
<223> n equals a, t, g, or c

<400> 77
gnggccgcag tactggatca tcaccgaagt ttcgcgcgga aaagcgttag agaaagatct   60

aatgcttcat gatggtgatg gacttttcct gatggtgaaa tccagcggga aatgctctgg   120

cgtttccgtt atcaacattc gacaacaaag cagcggacaa tgatgggact cggtgtcttt   180

tccacacttt cacttgctga tacccgaggg ctaagagtgg attatatttc cttattagcc   240

aacagaatcg acccgcaaat tcaagctaaa gccgtagacg aagagcaata tttgaaaagg   300

tgggcaccta cgttaccaat actggcttaa tggctacata cggcggtcag ggtcagttta   360

cgcttacaaa atataaaaca atttgataca aaatattcct cttattctaa ataaaagtat   420

cttgaaaacc ttccaactgg aaggtagatt gaatttatgc taaacataaa gaggaattgc   480

ttatgaatta cgttatccgc actaccaccg tcgtctttag tctcatgctg ggcaggttac   540

gcaactgctg   550

<210> 78
<211> 382
<212> DNA
<213> Escherichia coli

<400> 78
cactaaaggc cctggatgtt tttcgctcat tagtagacat ctcgctgata acggcgctct   60

acgcgcactc acttaaaaat tcatccgccg cttcggtgtc catgccacca aattcggcaa   120

tcacttccag aagtgcctgc tcaacgtctt tcgccatgcg attagcgtcg ccgcagacat   180

aaatgtgggc accatcattg atccagcgcc acagctccgc gccctgttcg cgcagtttgt   240

cttgtacgta aacttttttct ttttgatcgc gcgaccaggc aagatcgata cgtgtcagca   300

cgccatcttt gacgtagcgc tgccamtcca mctggtacag gaagtcttcc gtaaagtgcg   360

gattaccaaa gaacagccag tt   382

<210> 79
<211> 3576

<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1528)..(1528)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (2618)..(2618)
<223> n equals a, t, g, or c

<400> 79

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taaatcagca gaactgatat aatatctgac cattatttct gactcttgct tttgttctgc      60

tattattgac cgaaaggaga ctgccaggca tatttttca gccctttcca ttcaaacgtg     120

aattcaatca gctcatcagg aacatcgcaa acaatatgaa gacggatttc ttctctgccg     180

tgactcttgt cactaattgc gtaacagtca tgctctggat tatttaattc tttcagcgaa     240

aataaaagat tatcagatat gggatgacac acagcaccgc tgagcaagta tgtataacca     300

tgtacttata acaaaaggag acgtaagaag gggaacgggt atcagagggc caatcaaagc     360

aggtataatg aacgccagta taattgtccg caacccagaa atatattatt gaactggtta     420

tctcctgcga atgcatatac tgcaacggcc gttaaaatag cattatatcc ataaagcccg     480

gcagagattt tatcaggaga aagctcagga atacagaatg ataccaccac actcagaaac     540

gaagcgacaa ccgtaatcat cagtagtttc cggctccctg caagtagtcc cagcataaca     600

agaataccgc cgacagcatc aggaaacata aaaatctcca taaagctacc agacaatgcc     660

accggatagt ttttcagcaa aacagaacct gcacttcgcc cgaaggtact gacatatcat     720

gaggcattat tccggaatgt ataaccacg tagcgataat aaaggggcg gtcaatacgg     780

gtaaccctct gagcactgac gacaacaggg gagtaaacaa aacaatacca agagttccga     840

cgataagtac agcaattccg gagactgaca cagggacaag catgccacag gctatgccat     900

acagaacagc attatatccc catatacctt cattaatctc ctcatcagga taccgcaaac     960

accaggcaaa gaacggagaa agtgctgcac tgatggctga gaaatacagt atttcggggt    1020

gccccatatt aaaagaggct attccagtcg ccaaaaaaaa gaacaagcca gaaacaacat    1080

tgttctgtaa taatacctgt gaataccct tactaaaggc ggttatcacc tgttttactc    1140

tcatgtaaaa tgtcacacac acctcataca taaaccattc tccgcttctg cgggacagta    1200

ccgcccctga ctccacctca cagcggattg tgtatttta aacaatcaca gtcttctcat    1260

atactttcca ttctgaagct tatctcttcc tccgtgataa gcttccgtcg cgggatgtgt    1320
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tatacgccct gtaagacagt tataaaggac atcaatgcca tagttaatga ytaccgaatt   1380

ccggtggata gtcagtactg gtttgccaca aaacagtgca gtcacacatg acaggagaag   1440

atatgagccg gataccgctg ctctgagact taacgctcat gtaaactttc tgttacagat   1500

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tgacagccat acccgagctt aatggaatgt gcttattccc ggttgacaaa tcattctctt   1620

caacagaaac aatgacatta aaaacgagtc ccagtttctg gtcttctatt gcatctaaat   1680

ttatattttt taccttaccc accagataac catatcgggt gtaaggaaaa gcctccactt   1740

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taacctccag cgtgtcatct tccggaacga tgaccatcag tgtttccgct gttgtaacaa   1860

ccccaccttc agtatgaacc ttcagttgct gaacttttcc cgaaacaggg gccctgatta   1920

ctgaagcctg ttgacgctct tcattttct ctaactccag agttaataac tcaatgctgt    1980

ctgttgtttg tcttagcttg tctaaaattt cattttaaa aagctgcgtg acaagctgat     2040

attcttcttt tgcagacaat atctcactct caatttgctc cagttgcgat ttataaaccc   2100

gtaattcatt tgctgcctca acatatttat tctcctgctc aagtacagca tgttttgcaa   2160

ttgcctgttt atgcaacagg ctcctgaaat catccagacg gctttttttca accctcgata   2220

cattttcata acggtttata cgggcaagta ttgttaawcg ctctgctctt ttcttatcca   2280

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aagttaaacg cagtacttcc tcttcagata cattctgaaa ataaggctca tcaggaagtt   2400

tcagttcagg aagtttattt aattcaattg accggctcag aatttgatac cgaatttgtt   2460

ccagcctggc ctgtaacagt gatgactgcg tttttaacgt atcagcttca gctcccagcg   2520

ctgtaagctt taataacaca tccccttttcc ggactgactc tccttctttt acgayaattt   2580

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cccatttgca gtggcaacaa tttccacctg gcctaaaaca gataaaatga aagcaataac   2700

cagaaacccc ataataaaat aagcaaccag acgcggccgt ctggataccg gcgtttcaat   2760

taattccaga tgagcgggta agaattcatt ttcgtccttt tcacgtaccg gagtatctaa   2820

ctgcttccgg attttccatg tttcactcca gacaagttta tagcgcaaca ggaactcgct   2880

gaaccccatt aaccatgttt tcatattctt ctgttctttc tgttagtctg actgtaactg   2940

atataagtaa ctgtataaac tttccggttc agaaagcagc tccttatgtt taccctgttc   3000

aacaattttc cctttttcca tgacaataat gcggtctgca ttttttactg tagacagacg   3060

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atgctccgac tcataatcca gagcactggt tgcttcatca aagatgagta ttttagggtt    3180

gttcaccagc gcccttgcaa ttgcgatgcg ttgacgttga cctccggata atcctgcccc    3240

ctgttccccg acaatggtgt tatacccctc acgcaattca gaaataaaat catgagcacc    3300

tgstaatttc gctgcataaa taactttttc gacggacatg ccaggattag ccagtgaaat    3360

attatcaata atactgcgat taagcagcac attgtcctgc aacacaaccc ccacctgacg    3420

acgtaaccag ttaggatcgg ccaacgcaag atcatgtcca tcaattaaga cctggccatt    3480

ttcaggaata taaaaacgtt gaattaattt agttaatgtg ctttttcctg aaccagaacg    3540

tccgacaata ccaataacct ccccctgctt aatact                              3576
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<210>   80
<211>   3541
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
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<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (2529)..(2529)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (3392)..(3392)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (3425)..(3425)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (3452)..(3452)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (3471)..(3471)
<223>   n equals a, t, g, or c


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tccctggctt ctcacctgcg ctgacatcaa tttgtgtcac ccgcagcgca tatttttcat      180

ccagtgcttt taaccagttc agcaggtcat taaacaccac aggttctatc cagacctgga      240

tattctcccc gcgctcggca atccgtttga tgaccaccga gtgcgcggaa gctgtcactg      300

atgacccgcg atacctgtgc tggcgttgtc gtgccggatt ttcgcgccgc aataatatcc      360

ggcgcggcgc tcttcagtcg cgcgttcatc gccaccagct gctgcaacat cgtctcctgt      420

tgctcaatcc gttcgctcaa cggctgccag atgagaacgt aatatccggc gctaaacagg      480

aacactaccg ctgccagtaa catgcctttt tcacgcggcg aacgccccgc caggtgttgt      540

gtcagccagt gttcgccacg gcttaactgg cgttcacgcc attgctgaaa atagtgaata      600

aatttatcgc gtaacatgtt atttcctccg caacgttacg ccgccggaaa ccgcatcacc      660

ctctttctgt aacgcgtcct gttgcacaac ataatctgcc gccagtgcgc tacgagttta      720

tcgaagctgg caaagttcgc agcccgtagc tggaggtgaa gcgtctggcg tttttgatca      780

aaggtgaaac acgcatttcg atgtcggtaa gtgacgctga tttcagggta ctggcgatcg      840

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tcgtcacctg agagcgtaaa ttcacaatcc gcttctgctc cgggaatagc gttaagaact      960

gtttctccgc ctgggtgcgg cttttgcgcca cctgttcgct gacgctccat aacgtcacgc     1020

cccgttccac taccagcgca accagaatca acaatatcgg cagaatcatc acccgccagc     1080

gcgcccactg ttttcggtag ctgacacgag gctgccacgg ccctgttagc aggttccctt     1140

ccggttcgcc ataagtggta atggcgggca gagcgtaacg gtcagcgttc ggcgtctgca     1200

ccagcccatg cagacagttc ttccggtgca atgccgacca cggttagtga aagcggtaaa     1260

tcctgctcat tgagctgtgc tcggaacatg accggagcca gcgcccgccc ggcgctccat     1320

ccccggcatt catcgatgcg gmagataacc cgttgcgcat cgccagccat aaacccacaa     1380

ggaatggaca tccagtccgg cgcgacgata gcgcgggtga tgccgtttgc ctgcaaccac     1440

tgcgcaatgt tgcgcatatg ctgctggtga atcacagcta cggttgccag ttgctggtcg     1500

attttcaacg gggcgaaatg cagttcatcg atatcctggt tcagctcttc ttccagcaag     1560

gcgggcagaa tcgtcggtat ctgcttgcgg ggcacatcag gcagttcaac ctgccagacg     1620

ctgatccatt cgccgggaat gtagagtcga atcgcatcag tttgcagcca ttgctggaga     1680

cattcatcag caacgtcagg ccagatgccg cactccacgt cggcggtacg acgctgccaa     1740

cggatgggag cggaamgnca aagcgggaaa aaaatctcaa gcatggaact cactcacttt     1800

ctcctgtctg atgccagaga acagaaaagt gttgtgggcc catgcggaca attaacgaat     1860
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tcatcgtcag ttcaatctca ttcacggtga tatctgaacg cagccagaag taattgctgt   1920

ccacgctcag gacggttttt agctgttttt tagtacgctc atcgacgtca gcaagtaacg   1980

gctgtgcaag aaactgatcg acatcttccc agcccttcgc atgacgttgt tgtaataacg   2040

ctcgcgcctg aacagggctt aaccacgggt caaacagcgc ctcaagaatc acactttgcg   2100

tgacgtctaa ggtattgatg ttgatttgct ggcgggtcat cggcagcgca cagaccagcg   2160

gtttcagttt ttgataaagc ccggcgtcca ttccctgcac cacgcgcatc tcgctgatat   2220

cagccagcgg ttgattagcg gcgtaaaacg gcaccgaacg ggcgagatac tcgctgtctt   2280

cacggcccag acgcgtctgc acgctgcggt cttcgtcaat aaactcccac aggctttcgg   2340

ctatcagttc ggcccgataa gcaggcacat ccaggcgcgt gatcagggca atcagttgtt   2400

gtaccgcgag cggacgcgac gccgtcgtcg ctgagcgag ggcattcagg ttaaagcaag   2460

cctgtgcgtc acgcagagtg acggcgattt gccctgcggc agtgggaaaa aacgcgggcc   2520

ggaagcccna cgtgcgccag atgcacgcgc ttttcatttt tcaggctcag actgagtgcg   2580

ctcaacgcca ggctttccgc actggcgctg taccacagcg cctgctggta ctcctgctgg   2640

tgcgcgttcg cccaagttgt ttctgcatcc gcccggaaag cgtgatggtc accagcatca   2700

taaccgccag caataccagc accacgacca gtgccattcc gcgttttggt ggtgaggtga   2760

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gcgcgtgccg tcgtagaact gcaaacggag cgaatccgcc gggattaatt tttgcgttgt   2940

tggcttcacg ctgcctgccg catcggtcag tggccaggct aaccgttcga gataaccacc   3000

atgaatgcgg taaccgacgg tgagcagatt actgcgcggc agacgcatca acggattaac   3060

cacgccgcca cgtacaaaac gcatcccttc actctcagac gccagcacgc cagcgcccgc   3120

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ctcactgttg gtctcccacg gcgctaaacc angcgcgtcg tgactgaatc actgacgaaa   3420

agtcntcatg aagactgact tcaatatcca cngcatggag cagcgcatta ncggtattca   3480

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g                                                                    3541
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<210> 81
<211> 1234
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1156)..(1156)
<223> n equals a, t, g, or c

<400> 81

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gattttctga ttcaacgttt tttctctgaa actatccata ttgaaagtgc aattgttgtt       180

acagcactta aaattgccaa tcagattgct ctatctcaaa atgagaccaa gaatgtgtat       240

ctgcttggat ttgattttac gataaagggg gggttcacta gcaagatccc ctgcgcagcc       300

ttgcatgccg aaccagaata tcaagagcga attatcagta gtcaagaaca gctattgcag       360

atgctccttg cagaaaaaac acgcctgaat atcaatatca atcatgttgg taataagcct       420

tacagcgtat attctgttga tgcatttaat caagtgttcg ctgcccgcca tcgtggagtc       480

gtgctgccca cacatgccca gatttccact acatcatcac aaaatggggt gaaggtgatc       540

gcagagatta ctactaatca ctttggtgat atggaccgat tgaagtcaat gattgtagcg       600

gccaagcagg caggggctga ctatatcaaa ctgcagaagc gtgatgttga aagtttctat       660

agcagggaga agctggagtc accgtacaac tctccttttg gcaccacctt tagggactat       720

cggcatggca ttgaactcaa tgaagagcaa ttttcctttg tcgactcttt ctgtaaagag       780

attggtatcg gctggtttgc ttctatttta gatatgccct cgtatgagtt cattcggcaa       840

tttgaaccag atatgatcaa gctaccatca actatatctg aacataaaga ttatttggct       900

gctgttgctt ctgattttac taaagatgta gtaatttcaa ctggttatac tgatgaggcc       960

tatgagcgtt ttayccctkga taactttacc aaggttagaa atatttatct gctgcaatgc      1020

acctcggctt atcccacacc gaatgaagat acccagctag gtgtgataag acattattat      1080

aatttggcga aaaaggatcc acgtattatt cctggttttt ccagccatga tattggtagc      1140

ctttgttcca tgatgntgtc gcagccggtg caaaaatgat tgaaaagcat gttaaatttg      1200

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<210> 82
<211> 6313
<212> DNA
<213> Escherichia coli

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taccaaacgc cgaaagaatt tcctggttgg ttacgagata tccaccggca atttgacttt     180

gataccattc tctgttttgg tgactgccgt ccattgcaca aagaagcaaa acgttgggcg     240

aagtctaaag ggatccgctt tctggcattt gaagaaggat atttacgtcc gcaatttatt     300

actgttgaag aggacggtgt aaacgcgtat tcatcgctgc cgcgcgatcc tgacttttat     360

cgtaaattac cagatatgcc tgcaccacat gttgagaact aaaaccctc gacgatgaaa      420

cgtattggtc atgcaatgtg gtattacctg atgggatggc attaccgaca tgaattcact     480

cgctaccgtc atcacaaatc attttctcct tggtatgagg ctcgttgctg ggggcgtgcg     540

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atcacagtaa ttataatgat gtgcgtgatt atattaacga agttgtatat tcattttcgc     720

ataaggcacc gaaagagagt tatttggtga tcaaacacca tccgatggat cgcggtcaca     780

gactctatcg accattaatt aagcggttga gtaaggaata tggcttaggc gagcgagtca     840

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ccgatttttaa accagatatg aaactgttta agaagtttcg tgaatattta ttgatgaaga   1080

cgcaaattaa tgctgtttat tatggtgtaa aatcaaaaag caatagaagg tccgcattcc    1140

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gcagcgaaaa ccctgctttc tcgaccagtt caggccggtt ttacctccaa tgctttccgt    1260

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tcgtacagcc agaatgtggc agactgaggt ggaatagata acgtccgtat gcccgctcac    1380

cacctccggg cgggagtgtg tggtatctga catcatcatt tttcctttct gtttataaat    1440

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gacatctggc actggcatcc agatgaatga gactgacacc ataacgccgg atgagtgtga   1800
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ctgttggtca gattcatcca ccacgcggag tgaataaccg ttttcagcga ccttgttaat    2040

cagttcagcg agattaatac catcgacgtc aacgacaatg cgccccatat tcagtgcctg    2100

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gcataatttg ctccttatcg gtggttaaga tttactggtg taataaatga aaaagccacg   5280

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cttaactggc gagctgagta ttaagctgtg ttccggcatc accagcgcaa ctgaccttca   5400
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tctgtgtgta acccggcata tctggtttct cctgataaat agcctctgcc atacgttgtg      5580

gcagaggctg aagcatgaaa ctgacttcag ggatcagtta acatttttc cggaaacggt       5640

aatcagcagt ggatggtagt cctggggatc gaaaaccgat aacggcagac tgacacgatg      5700

gccgttactt tcttcagttg ctttaatgat ttcggttgtg gcgacatttt ccacgcactc      5760

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tcggttaacc atattgccga gatgggatgc atcatattcc atgacggggc gttgcctgat      6240

gatactgacc accagtggtt tgattaacat gttggtcgcg gcccgttgtt gtataccggc      6300

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<212>   DNA
<213>   Escherichia coli

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ggatccgtca gaaagtcgca ctgccgcctg atgctgtgct gaccgtgaca ctttctgacg       180

cgtcgttagc cgatgcaccg tcaaaagtgt ggcgcagaaa gcggtgcgta ctgaaggtaa       240

acagtcacca ttcagctttg ttctgtcatt taacccggca gatgttcagc cgaacgcgcg       300

tattctgttg agtgcggcga ttaccgtgaa tgacaaactg gtatttatca ccgataccgt       360

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aaccgccgtg cc                                                           432
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<210>   84
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<212>   DNA

<213>   Escherichia coli

<220>
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<223>   n equals a, t, g, or c

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cgtaaattgc aggacagctt ttatatgaac tttcctggga tgcgctgaac acggcataca   180

gtgaacaccc agagtggttt tccgggcttg tctccgggga tgagaattaa aaagtggatt   240

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<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (590)..(590)
<223>   n equals a, t, g, or c


<400>   87
catttaccaa accccgttcg aatatcttat ctattgccca tctcatatta aatataaccg      60

ataatttggt ggatactaat agtaattacc ttgttattga aaatataatt attgttattt     120

ttagcctcat taattaaatt gaaaaatcct ctctaatttt tgtcagatta gggctgtaga     180

aaggatcgag ttcaagatgt ttaccccatt tgcttttcat aaagtccact tccctggcaa     240

atctggctag tttctccggt gaatcttcgg ctcctcgact aatcgattca tagtggtaaa     300

gctcggcata aggtgtccag agattacgat accccgcttc gngtactttc agacagaagt     360

ccacatcatt aaaagcaaca tgcagattct cttcatccaa cccggcaact tcctcataaa     420

tatctttgcg aataagcagg caagccgccg tgacggccga gagagtttgt gtcaacaaca     480

aacggctgaa atagcccgga tggtggcgag gataatgttt atgggagtgt ccagctacac     540

caccaatacc gagaatcact ccgccatgtt gtaaaagtat cattactgtn atagg         595


<210>   88
<211>   399
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (76)..(76)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (115)..(115)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (379)..(379)
<223>   n equals a, t, g, or c
```

<400> 88
```
tggcagttga acagattttc acatcagcaa cagattagcg aacgggactt ggcattagcc    60

gagcgtttta gtgaangttt agctctaaca cgtctattag aagagcgcac gcagnattat   120

cactgaacta gagattgaaa aacaattgct taccaccaag ttgtctggcg tagagcagca   180

gttaagggct gagcaagagt cgcttcagca ggcccagtct gcattgctct cagcagcaaa   240

agaaaagcaa catcaacttg atgagttgga atcggtgctc aatgagcggt acagtgagat   300

tgcaacctta acccgttggc tggaagaacg tgatcaggca ctccttagtg cagcaagtga   360

acaacaacag accaatgana ccatatagag ctcagccag                          399
```

<210> 89
<211> 1013
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (943)..(943)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (974)..(974)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1013)..(1013)
<223> n equals a, t, g, or c

<400> 89
```
atactctgct tgttgagcag ccattacgtc gctttgtgac gcaatattag actcgtgcac    60

tgctattagt tgagtcagtt catcacattg tttagaagcc gcagccaaag caagagtttg   120

ctcatctatg ctttgctgca atgtttgttg cacaagttgc ccttcttcca gctgttgctg   180

tagatttgca cttacctttt tcagtgcatc atattccaag cctaacgtat cgtgctgtgc   240

ttccagtaat ccataagcat gctgcaactg gttttttagtt tgctgctcac cgtcaagctg   300

ttgctgcaat gcattagcct gctgttgcaa caagttcacc atattgtctc gctcggccag   360

tgtacgaacc tgtgtatcct ggatatgtag cgcttgttcc aactgaagct gtaattcggt   420

aatttgccgc gaatgttcgc tcaatgctct gttgctcttg ctgagcgcga gagtaaggtg   480

agatgcacgc tgtgtttctt cactcaattg taacgtcagg gtattgacct gttgctccag   540
```

```
ttgatggcga gcttgctcct ggctcgtgat gcgactctgt tgctgctcta gttgatgcag      600

agctgtatgc aactcatcgt tggcttgtat tcgctcctgc gaccatacac tcaagtttgt      660

ttgggcctca ttgagctgtt cttgcaataa tgccacctca gatgtcagcg aattgatatg      720

ttgctgggca aaagatagct catcagattg cacttgagca tgtgcaagct gcttttccat      780

ttctaatatg ctgttatgtt gtgcagtaat gcgctcggca agacgccccc tttccaatgc      840

ctgctgttct accaatagct gccgttcagc ctgaatgtca tcttgttgtg tagacaactg      900

acgttttaac tgggaattct cccaactctc gctacaagat ttncccaaac gacaaaagat      960

gtcttggact tgtntgggtt acacgagcat tttctgagga ttttatacca atn            1013
```

<210>   90
<211>   689
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (643)..(643)
<223>   n equals a, t, g, or c

<220>
<221>   misc_feature
<222>   (650)..(650)
<223>   n equals a, t, g, or c

<220>
<221>   misc_feature
<222>   (658)..(658)
<223>   n equals a, t, g, or c

<400>   90

```
gatatccaca tcgagacgtt tgaaaagagt ctggtgatcc gttttcgtgt tgacggcaca       60

ttacatgaaa tgctgcgtcc ggggcgcaaa ctggcctcgc tgctggtgtc gcgtatcaag      120

gtgatggcgc ggctggacat tgccgaaaag cgcgtgccgc agsatggacg tattgcgctg      180

ttgctgggcg gccgggcgat tgacgtgcgt gtatcaacca tgccttccgc ctgggggaa       240

cgggtggtgc tgcgactgct ggacaaaaac caggctcgcc tgacgctgga gcgtctgggt      300

ttaagtctcg aactgactgc gcagttgcgc cactgttaca caaaccgcac ggcatttttc      360

tggtgacggg gccgaccggt tccggcaaaa gcaccacgct gtacgctgga ttgcaggagc      420

tgaacaacca ctcgcgtaac attctcacgg ttgaagaccc tatcgaatac atgattgaag      480

ggatcggtca gacgcaggtt aacacccgcg tcggcatgac attcgcccgt ggcctgcgcg      540

caattttgcg tcaggacccg gatgtggtga tggtcsgtga aatccgcgat accgaaaccg      600
```

cagaaatcgc tgttcaggct tcaactggac cggacacctg ggnactttcn acgctggnat   660

accaaaaaaa aggggtgggg ggattatac   689

<210> 91
<211> 1281
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (46)..(46)
<223> n equals a, t, g, or c

<400> 91
ctcagcagaa ccgagatctt ccatcagctg gcgggcctcg gaagantccc gctgccagac   60

cgcattcagc cgctgttcaa attcggcctc gtcgatttgc ctcagcgtaa agggcgcgtt   120

cagcccccgt tgcagctcct gcaaaacaga gagcgacaac ggatgcacat ggaggatctc   180

cagcgacgct tcgcaccatg ccaccaggct aaaccgacgg ctgaaactat agggcagacg   240

cacggtgtta gcggtggttt cctgtgctac aggcaccatt aacgcgttct cccggcatta   300

aggaacgcac gaacttctgg cggtaaggcc tgattttgcg caggcaatat cgctgcgcag   360

tgtgcggcat caggcttaag ccctgctcat cgcggtagat ttgctcggcg cgcatgtagt   420

tatatttgcg ctgcgacaca ccgtctgccg ccataccgtc acgcagaatg tcgggcgga   480

taaacaccat caggttacgt ttttcttttt tatccgccgt cgatttaaac aggttaccaa   540

tcaacgggat atcgcccagc agcggcactt ctcgccacgc tttctcccgc ctggtcgtcc   600

atcagaccgc caagcacaat tagctcacca tcgttagcca acacggtggt tttcagtttg   660

cgctcaccaa acaccacgtc gaggctggtc tgtccttcca ccttcgacac ttcctgctca   720

atcaccatct gtaccgcgtt tccttcgtta atctgcggcg tgactttcag catgatgccg   780

actttttttcc tctctaccgt gttgaaagga ttgctgttat tggagccaac ggtagatcca   840

gttaataccg gaacgtcctg gcccaccatg aagaaggctt cctggttgtc cagcgtggtg   900

atgctcggcg tggagagcac gttcgagctg gagtcgtttt tgaccgcctg taccagcgcc   960

atccagtcgc ctttcamcac gccaaccgcc gtaccgctaa agccagaaag aagctgagca   1020

agcgtggaga gatcgccgtt agtatccgga tttatggtgg tagcgccgtt ttcactgatc   1080

accgtggagc ctttctgcgg ttttgcytga gaaatcgtgc gcccagcgta ccaatangga   1140

tctgcgtacc gttagcaaac tgcattaatc cggcatcttt cgacgcccac tgcacgccga   1200

aattgataat tcaccttcgg caacttccac gatcaacgcc tcgacatgta cctgagcacg   1260

gcgaatatcc agttgttcaa t   1281

<210> 92
<211> 421
<212> DNA
<213> Escherichia coli

<400> 92
caatattagc gcacggcacc aaaggtgatg aatgagcagg ctgraatatt attttcccgc   60

ggtgcagaaa tccttgttct tggttgtaca gaaattccgg ttattctggc gcaacgttaa   120

agagcagcct tcccgctata ttgactcacg gcgtcactcg ttcgtgccgg aataaaatgg   180

tacgaaaatc gtgtcggtaa acattatctt ttaacccaat aatcatttaa atcgcagcca   240

gaaagttatt cgcttttaac tgaattatat ttataacgga gaacattatg gtttggctgg   300

aaattatcgt agtacttggt gcaatakttt ttggtattcg ccaggggggga atcggtattg   360

gtttatgtgg cgggcttggg cttgccattc tgactctggg acttggtctg cctatggggg   420

g   421

<210> 93
<211> 1018
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (781)..(781)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (990)..(990)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (993)..(993)
<223> n equals a, t, g, or c

<400> 93
gttaacaatg gcgtaacaaa tttcaataac gtagaagatt tgctgtcaga aaggtcaata   60

tttcctttca atgggtcaaa gacttgcttc tggaattcat ccggtttttt ctccagacgt   120

tttccttctt cataatagtc aatataactt ttaccactga gtgttttgkc yccatttctg   180

gtgacaccag ctaactcacc tatcagcgta tcccmatgtt gctgggtaat gaggactgat   240

ctttcaacag aatactcttt attatactga gataatattt taaagttatc ttctaaaaat   300

```
gcagcatggc gggcatcata tcccattttc aaagtaattt ttgccgtgtt ttttctccca    360

ttcagcaata acatcggcca ttttactggc gacatgttca aacattgcct gttttgaagc    420

ctcaaggatg cctgaaatta tccccgtaac agccctacc agcgcgctta ccggtgcacc     480

aaccagagat gtcgttgcag cagcactaat acctgaagat actgaagcca gaacagtgct    540

tatcgttgtt aacgatgcat caatagctcc tgtttctttg tggaaagcag caagtaaact    600

gtcaccatcg tatccaagtt ttttgaatcg ttgtgaatac tcctctattt tattggcacg    660

tttaaactta tcggcaatgg acaggaatga gaggggacta attgccagtg tcacaacaga    720

agcaattaaa ccggcagcag cagcagatgt agataacccc tgtgctgcac gctgtgcgay    780

naatatattg agaaatacct tttccaacat tacccagtac tttcgttgtt aattcaacac    840

ctgctgcagc tttagttccg gtatctgcat ctgcattgct cagaatgaaa cttgctgaaa    900

tcgcagataa aatacccgat acagtatcta accctgcacc gatattatca aggttaggta    960

aattctgtaa cttattacca acaccgttcn ggnctgttgg tattgggata atacactt     1018
```

<210> 94
<211> 400
<212> DNA
<213> Escherichia coli

<400> 94

```
ggcaatgttc aaatcgatat tgtgcagcac ctgggttggg ccaaagtgct tggagacgtt     60

tttaaattca atcacaggat tttcatcctt ctttccagac gacgcagaat aaagctcagc    120

accagggtaa taatcagata gaacaccgcc acggcgctcc agatctcaag ggcgcggaag    180

ttaccggcaa taatttcttg cccctgacgg gtcagttccg ccacgccgat cacaataaac    240

agcgaggtgt ctttaatgct gatgatccac tggttaccca gcggcggcag catacgacgc    300

gtgccagcgg taaaatgacg tagcgaatgg tttcccmacg tgaaagaccg agcgccagtc    360

ctgcttcacg aaaacctttg tggatagaca gcaccgcacc                          400
```

<210> 95
<211> 1857
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (16)..(16)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1465)..(1465)

<223> n equals a, t, g, or c

<400> 95

```
cgtgttcccc tggccngctt ggtttcgcca tagacgttga gcggggaaat cacatcggtt      60

tccacccaag gacgttcacc acttccatcg aaaacatagt cggtggaata atgtactagc     120

cacgcaccta atgcttcagc ttctttggca ataaccgcca cactagttgc attgagtaac     180

tcggcaaatt cccgctcact ctccgctttg tcgactgcag tatgggccgc tgcgttaaca     240

atcacatccg gcttgacgag acgtaccgtt tcagccaccc ctgcagaatt gctaaaatca     300

ccgcaatagt cggtggagtc aaaatcaacg gcagtgatgt gccccagagg cgccaatgca     360

cgctgcagct cccatcctac ctgaccattt ttgccaaaca acagaatatg catcaggtac     420

gctccctata gttttgttca atccaggatt ggtaggcacc actcttgacg ttgttaatcc     480

attgttgatt atccagatac cactgcacgg tcttgcgaat accagactca aaagtctcct     540

ctggctgcca atccaacgca gcgctcatct tgcaagcatc aatcgcatat cggcgatcgt     600

gtccggggcg atccgccaca taagtaattt gatcgcgata agagccagct ttcggtacca     660

tctcgtcaag cagatcacaa atagtatgta ctacatccag gttctgcttc tcgttgtgac     720

cgcctatgtt ataagtctcc ccgaccaagc cagtggtcac taccttgtag agtgctcgtg     780

catgatcttc cacatacaac cagtcacgaa tttggtcacc tttaccataa accggcagcg     840

gcttgccatc cagcgcattg aggatcacta gcgggatcag cttctcggga aagtggtaag     900

ggccatagtt gttggagcag ttagtgacaa tggttggcag gccgtacgta cggtaccaag     960

cacgcaccag atgatcgctg gaagccttgg aggcagaata gggactgcta ggagcgtagg    1020

aggtagtttc ggtaaagagc ggcaatgcct caccggaggc tacttcatcc ggatggggca    1080

gatcgccata tacttcatcg gtagaaatat ggtggaagcg aaaggccgcc ttgctcaact    1140

cgcccagact gctccaatag gcgcgagccg cttccagcaa tgtataggtg cctacgatat    1200

tggtttcgat aaagtcggct ggccctgtga tagaacgatc aacatggctt tcagcagcca    1260

gatgcatcac ggcatctggc tggtgcagag caaacacccg atccaactca gcacgattac    1320

agatatcaac ttgttcaaac gaataacgct cacttgacga tacactggcc aaagattcca    1380

aattgccagc ataggtgagt ttatccagat tgataacgga gtctccagta tcactaatga    1440

tatgacgcac cacggcagag ccganaaaac cagcaccgcc agtaacgaga atcttcatat    1500

atttcgctct cttattttac aattaatagc tattaaaaat aaacttgttg actccgatat    1560

attagaaata tcgggatacc gaactaaata tttttatatg cttttgccaa gcagactcta    1620

tatccaccct gtatcactat gctttctggc atacaatatc ccatcattga cacaatgata    1680
```

```
aacatataaa taaagaaaat tttaaatcat ataaccaaat tactttcatt tattatcaat    1740

aagtattttg ataagaatac ctataccaca gggagccccc tgaaacataa tattagcgaa    1800

gaatgataac tgatagttac catcttagag ataaaaactt atttgtgtgg cgggatg       1857
```

<210> 96
<211> 1128
<212> DNA
<213> Escherichia coli

<400> 96
```
agctctttcg tgtaaaataa aatacagcat atcctatata gcttacaatc attaaatgaa     60

gtcgccaata tttatatgtt ttatcaatat cagcttgact cattgttatt tctttgtcag    120

gagactctga aaatatggac atatataacc tcttttatta tgaaatattt tcaataataa    180

taatccgtta gtaatcctat cataggtaa tgtctcatca tgttaaaatg atcacattta     240

taatcatgtc aaaaagaaca acagaaaaaa tcatataaaa tcaattaaat ataattgcca    300

catattgttg ttattwaaac attggtggtg aatttaaagc gagaacagtt tgtaacagtg    360

actccttgca gactaagtta gagtctcctt ctaaaattag acggwkttct attgatggat    420

aatagtaagc gcaccgtgaa kgacgtgggg taaaaattag tttacagatt gagtgacatt    480

ccagggcaac aactctttca cgcggttggc aggccaggtg ttgattacac tgatcacgtg    540

gcgtacatta ccggactcga ttccgttaag tttgcagcta ccgatcaggc tgtacatcac    600

tgccgcactc tcgcctccac catcagagcc gaagaacatg tagttacgcc gccccagtgc    660

aatacccgga ggcgttttca cacaggttat tgtcgatctc cacccagcca ttgcggcagt    720

attcgttcag agcgtcccat tgcttcagca gataggtgaa cgctttcgct gtatccgagt    780

ggcgcgacag tgctcatctg cccctggagc cactcataca acgactgcat tagcggtacc    840

gttctggctt ttctgaccgc cagtcgctct tctgccggac tgccgcggat ctcagcctcg    900

atagcgtaca gttcaccgat acgctgcagg gcttccgtgg tgatgtcagg tggcgctctt    960

gcatgcacat cgtggatttt tctccgggca tgggccatac aagccgcttc ggttacctga   1020

ccgctttcgt aaagagcatt gtaacccgca tatgcatcgg cctgcaggat acctctgtag   1080

tccgccagat gttgctgtgg gtggatgcct ttgcggtcgg gagagtat              1128
```

<210> 97
<211> 439
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (401)..(401)

<223> n equals a, t, g, or c

<400> 97

```
gtttgcttac gaaccgtgaa atatgacggt cccatataac tgcctgatac ttgtatatca      60

tatacttgtg catgcatgtc atcattaaaa agtactttgt caccgtcttt aagttgaaga     120

cgtgtaaaat ctttatacgg caagtagacg gaaaacgggc gctttccctg tcgccaatca     180

caccgacatg actgactttt gcgagaggaa gtgcataatt caccaattca gagcctaatg     240

cattgcgctg ggtaagctca aatcggaatg ggtttcgaac ctttcccgca acattgatca     300

ttggaccttg ttgctcaact gaaaatcaca tcttgatctt ttaatgccag cttcgggagt     360

ttcccatacc gtatgaaatc ataaagatca atttgckgtg nttactgcta ttttgtgcgt     420

                                                                       439
gaacacctta atttttgcg
```


<210> 98
<211> 906
<212> DNA
<213> Escherichia coli

<400> 98

```
tattcgtaat tagttataaa cagatgatgt aaacaccagt tgactagagt caatcttata      60

ctggcaacat ctatgattaa tttgtgtggt tataatttta aatatcttat atttatgggc     120

tattattgat atctgtcaga gtatcaataa tagaaggtaa ttgtttttaca tactatcaac     180

ttttggataa cgtttttaaaa tgcaccttgc acatcgtatt ttattatttt cactaatctt     240

ttttataacg gcctgcgcac atgatccaaa acaagttgaa gcctctcgtc cattggtaac     300

agcgattaat tcttcttatt ctcttattcc tgaagatttg caggcaccat aaataacca     360

agatcaaggc acgacattca acaaaaatgg cgtaatttat actattgagg aaaggtatat     420

atcggcttta ggttctcaat gcataaagtt aagttatgcg atgaataaaa attattcaaa     480

gcgaagtgtt gtatgtaaag agaataacaa gtggtatcaa gtacctcagt tggaacaaac     540

atcagttagc actttgctta ttgaagaata aagttgaagg tagacggtta gaaaataatg     600

aaaatttcgc aacttagcac tcttctcttt cttatttctg catcagcatt cgccgcaata     660

gagcaaaatc aatctaatgg ttcacattta gattatgatc ttgctgcctc gacaggagag     720

tctcggaaaa tgctagcaga catcactgga cagcctaata caacctccac aacaggaagc     780

ttcacacaac agaatcgtaa tgggatgttg cttccaggag agtcagatgt acgaaaatta     840

ctgccgcaat ctgaagcagg cttacctcct ccgtatggtg ctaatttatt tgccggaggc     900

                                                                       906
tatgaa
```

<210> 99
<211> 1395
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1121)..(1121)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1264)..(1264)
<223> n equals a, t, g, or c

<400> 99

```
gcggcctgat atatgccgtt attacaaaaa gaggatcaac cacactgcct tttggaccgt      60

gtttaagtct gggcggtata gcaacacttt atctacaggc attgttttaa tgataaccac     120

gtcattatca aagtgacatt ttaactctta ttaataacct tagagattat ttaccatgtc     180

gataaaacaa atgccaggga gggtattaat atcgctattg ttgagcgtta caggattatt     240

aagtggctgt gccagccata atgaaaatgc cagtttactg gcgaaaaaac aggcgcaaaa     300

tatcagccaa aacctgccga ttaaatctgc gggatatacc ttagtgctgg cgcaaagtag     360

tggcacgacg gtaaaaatga ccattatcag cgaatcgggt actcagacca cgcagacacc     420

tgacgccttt ttaaccagct atcaacgaca aatgtgcgct gacccaacgg tgaaattaat     480

gatcaccgag ggaattaatt acagcataac gattaatgat acacgtacag gtaaccagta     540

tcagcggaaa ctggatcgta ccacctgtgg aatagtcaaa gcataacgtc gggtagatat     600

aaattggcgc gggttgtttt tcgtgacgca cgaatttatc tcattcaatg gctgacaaaa     660

attcgtcaca ctcttaacca gagacaatct cttaatacag acaaagagca tctgcgcaaa     720

attgcacgcg ggatgttctg gctgatgctg cttattattt ctgcaaaagt ggcgcattca     780

ctctggcgct atttctcctt ttctgcggaa tatacggcgg tttccccatc ggcgaataaa     840

ccgctccgtg cgratgcaaa agcgttcgat aaaaatgacg tgcaattaat cagccagcaa     900

aactggtttg gcaaatatca gcccgtcgcc acgccggtaa aacaacccga acctgcacct     960

gtggccgaaa cgcgtcttrr tgtggtgttg cgtgggatcg cctttggtgc cagacccggc    1020

gcggttattg aagaaggtgg taaacagcag gtctatttgc agggtgaacg cttggctcgc    1080

acaacgcagt gattgaggaa atcaaccgcg accatgtgat ntgcgctatc agggaaaaat    1140

agagcgcctg agcctggctg aagaggagcg ttccaccgtt gccgcgacca acaaaaaagc    1200

tgtcagtgac gaagcaaagc aagctgttgc tgaacctgct gtcagtgcgc cagttgagat    1260
```

```
cccngctgcc gtgcgtcagg cactggcgaa agatccgcag aaaattttta actatatcca    1320

gcttacgcct gtgcgtaagg aagggattgt cggttatgca gtgaaaccgg gggcagatcg    1380

ttctctgttc gatgc                                                     1395
```

<210> 100
<211> 380
<212> DNA
<213> Escherichia coli

<400> 100
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cacttgaata aaactgacac cgtttacctc cataatagtg agcatagccg ccattgcggc      60

ctgatcggcg aaccggaaat cgcaacctgc gaacgacaac cgaaccggca agcgtgcggg     120

aaggacggat accggactct ttcgccactt cagcaatcac cggcagcgtg gaaaaaacaa     180

taaacccagt accggccata atggtcatag accaggtgat aatcggcgcg attatgttga     240

tatatttcgg gttacgccgc ataaaattac cagcgacggt accagataat ccattcccct     300

gcggcctgta aggctgaggc cgccacaaca acggtcataa taatcaggat cacgtcgact     360

ggcggcgacc ccataggcag                                                 380
```

<210> 101
<211> 995
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (22)..(22)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (35)..(35)
<223> n equals a, t, g, or c

<400> 101
```
ctttacggtt taatagggga angccgactg gatgnaaaaa tggaatctgg agcccagaat      60

aaatctgaat ttaatgtgga ctggatatgc tccaataacc ccggcaggga gtcatctgtg     120

cgaagatatt tgcgttatgc tgtaatataa taattcaatg tatttcagga acagtaatat     180

actacagttt ctactttctt gtatttaata aattgttccg catcgctaaa agcaggtctt     240

tcagaagcca caagaattct gtggtcccag tatttttagt tatcctattt ttatatctaa     300

cttgtaatac ttacagcatt ttcattcatc ctaatggaag gctgtaataa tctttgagct     360

tagaaacatc aaaattatgc atctcattaa ttttgtcagt cacacgacct ctggtaaaaa     420
```

```
taaaaccccc agaaatatgc catttctagg gggggcgtaa gaatcaatat attttagtgt    480

tgttacattt agctcttagc tcttagctct tagctcttag ctcttagctc ttagcgtttg    540

tagtttcatc gcaatgagta aaaggacaac aagaataagt gataacgtta agagaagagc    600

atagaaacca ttccagtggt atatttctat tattttagac aatggatagc cagccgcgga    660

cgcaccaaga tatgcgaata aactaacaaa accagtagaa gcaccagatg catatttatg    720

tgagttttca gcagctgcca ttgcgatcag aaattgtggc ccaaagataa agaagccagt    780

gatgaaaaat aataacgaaa aaacatattt actatcaata gaaaccaacc atagacatgc    840

agaagcaatg attataccaa ttgtataaat aacattcatt tgagagcgat tgcccttaaa    900

cagaatatct gatccccatc cagctacgat agcaccaaaa aagcctccaa cctcaaacat    960

cattactgtt gcatttgctg ttagcaagtc atatt                              995
```

```
<400>   102
taaaagcgac tccatgtgaa atttctgttt gtcgtttttt ccccgttgta gcggctctgc     60

tcctggcttc cctgatagtc agcccgcagg cgccagggcc ccagattccc ccccacagtc    120

ccgttataac tgaactgatg agagtctcct ccctgataat tacgggaaac cgtcccgttg    180

aggttataat ccagcatcag tccgggaatg ccgtcgtccc agcgtgaggg aggcagccag    240

gtggcatcag aatactcaag ccaggcctgc ggcatattga tgcgtaatac gcccgctccg    300

gtatcaggac gaatatccac tcccggcaac ccatgaaaat ccgcacactg accatcatgc    360

cagtaaacaa ctttatccag agattctgct gttaacccca tcagtctgac catatctgat    420

gtcagacagc tgcggcaatt tttttctgc cttatctcct gacaacgcag gttcaacaaa    480

tgamatctgt aacgatgcgg gagaaatact ttgcccgtta acaatcacat ccagaagata    540

ttgccccggc agaacatagc cggcttctga aaaacgggtg aagtcaatat ttttcttgtc    600

cgctgcgtca agtacatctg tattaaactc aacggcactg gctgcgttac aaaacagaga    660

caacaatatc acacaggtaa tattgttgac tgcaaaaggt attctgtctt tcattccacg    720

catcaccaga ttcacaaaaa agataaataa ccggacatct caccggagtg actcactcat    780

aatcgacccg gaatcccagc acagcaaaat aatttcc                            817
```

<400> 103

```
tttttgtcag agcgttcact ctctggctgg atgatttcgg ctcgggaaat gcaggcttaa      60

tgtggggact gtcggggatg tttgaacggg taaaaataag tcatgagttt tttcattatg     120

tcctgaaaaa cgggtgtgca atgccacttc tccgtgctgt ggcagacact gttgcctgtc     180

acaacagagg cgtgatactc gaaggtgttg aaaatgaagc gttgttccgt attgccagag     240

acatgaatgt ccagggctgt cagggatggc tctacaggcg tgtggggtt dtgaattat       300
```

```
acatgaatgt ccagggctgt cagggatggc tctacaggcg tgtgggggtt gatgaattat     300

ccgcgcttat tcagcagtat gaataatcct ttttcacaga ctggtcagct gtcaacattt     360

atgttttttt atctgcggga atttatccgt ctgcctgtcg ggactactct gtcatacaga     420

aatcaggcca gaataaattg ttgtggaaag gtgagattta ccggatgact gatgtgctct     480

tgtgcacagg tatacaggca gtgtgtttcc agtatatgga aaatgattaa atgaataaca     540

cagacttatt agaaaaaatc atcaggcatc aacaaacaa agatcctgca tatcctttcc      600

gggaacatct tttgatgcaa ctctgtatcc gtgtaaacaa aaaaatacag aacagtacat     660

ctgagttttt tggtgcatat ggtataaatc actcagtata tatggttct                709
```

<210> 104
<211> 485
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (477)..(477)
<223> n equals a, t, g, or c

<400> 104

```
tcatcaaggg acggggcata tctggatgcg acagggcaaa ccaaccactg agaatccaac      60

ctgccaaagc ctgaccagga agtccgacgt taaagaaacc agctcgactg gcaacggcaa     120

aaccaagacc aatcaagacc agaggaccca tagcacggaa gatttctcca atcccacgca     180

gactgccaaa ggctgtatag aacaattctt cgtagcccca aatagcatca taaccgaaga     240

tccacatgac aatggctccg agtaaaattc ctaggaatac agaaatcaag ggaaccgaaa     300

tttgttgtaa ttttttagac atcactcttc tcctttccca agttyccacc agccatcaag     360

acaccaagtt cttgtttatt ggttgtttct ggtgatacaa taccttgaat cttaccatcg     420

tggataacgg caatacggtc tgagacgttt aaaatctcat ccaattcaaa gctgacnaca     480

aggac                                                                 485
```

<210> 105
<211> 459

<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (436)..(436)
<223>   n equals a, t, g, or c

<220>
<221>   misc_feature
<222>   (449)..(449)
<223>   n equals a, t, g, or c

<400>   105
agcagaatag gcaacatcac cacgccgaca aacagcgaga agagaatgac gccagccgcc   60

aggaacacca gctcatagcg cgccgggaag acgttaccat ccggcaagag cagcgggata   120

gagagcacac cggccagagt gatcgcccca cgcaccccgg cgaaagacgc gatcaggatt   180

tctcgtgtgg tccacgaacc aaactccatc ggcttcttct tcaggaagcg gttgctgaac   240

tttttcatcg tccacagcca gccgaaacgg accagcatca gcgccgcata tatcagaata   300

atattggtaa acagcatcca gatttcgacg ttagggtcga tttcttgctg gccatcagcg   360

gacgtcttcc agrattaccc ggcagctgca gaccttaaca gcagggaaca ccatggccgt   420

tttaaggaca atttcnagca tcggcccang tgctgtttt   459

<210>   106
<211>   908
<212>   DNA
<213>   Escherichia coli

<400>   106
ttaatagcac taatactgtc ctgctctatt ccgctgacat tttcagtcag ctgctgtatg   60

ggatgggtta cccaaaacca gaccagcata cctgacaaga gaccgcatat cactaccaga   120

aacagcgacc agtacagtgc attccatagt gcctttgtcc aggctgtatc agtaagagca   180

ttaagttcct ctccctgtaa aataatatac agatatcctt tcggttcatc actctggtaa   240

agcggtgcgg tactgaaaac tttttgctta tttacacttc ggggatcatc accatatacg   300

ggccagacac tgccggagag aaattttttc aacggtgcaa tattgatata ccggcgtttg   360

agatgacccg gagggcggcc tccacaagca gtcgcccttc cggtgaaacc atatacagct   420

ccacactggg attaagcgtc atcagacgct caaacagact cgttaatgtc cggtgttacc   480

agacaaaaca agcatcgcaa gacgccacaa acggtgcgct tacttaaata agccggttac   540

aggtgaaaaa tcacgtcctg atattcaaat gttttttcag gtcatatttt agcaggacac   600

taccagcacc taacagcagc acatctttta taacaaaact gtcaactttc cccagttgtg   660

```
gtaacaggct gagcgtggtt attcctgtaa caataacgat aatatctccc agtacaccag      720

cagcaggcct gaagaaaccg ataatcaatg ccagaaatgt gatagtttcc actatgccga      780

ggaaatagct ccctccatga ataccaaata taatatacag gatattcagc caggtgggat      840

atatcagggg cttgagagcc ataacttcaa aatcaaacca tttataagtc ccaaaaagca      900

taaatatt                                                               908
```

<210> 107
<211> 1057
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (88)..(88)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1019)..(1019)
<223> n equals a, t, g, or c

<400> 107
```
cgggctaacc caatatgctt tattaacccg ggataattac cctgttgcat attgtagttg       60

ggctaattta agtttagaaa atgaaatnaa atatcttaat gatgttactt cattagtcgc      120

agaagactgg acttctggtg atcgtaaatg gttcattgac tggattgctc ctttcgggga      180

taacggtgcc ctgtacaaat atatgcgaaa aaaattccct gatgaactat tcagagccat      240

cagggtggat cccaaaactc atgttggtaa agtatcagaa tttcacggag gtaaaattga      300

taaacagtta gcgaataaaa tttttaaaca atatcaccac gagttaataa ctgaagtaaa      360

aaacaagtca gatttcaatt tttcattaac aggttaagag gtaattaaat gccaacaata      420

accgctgcac aaattaaaag cacactgcag tctgcaaagc aatccgctgc aaataaattg      480

cactcagcag gacaaagcac gaaagatgca ttaaaaaaag cagcagagca aacccgcaat      540

gcggaaaaca gactcatttt acttatccct aaagattata aagggcaggg ttcaagcctt      600

aatgaccttg tcaggacggc agatgaactg ggaattgaag tccagtatga tgaaaagaat      660

ggcacggcaa ttactaaaca ggtattcggc acagcagaga aactcattgg cctcaccgaa      720

cggggagtga ctatctttgc accacaatta gacaaattac tgcaaaagta tcaaaaagcg      780

ggtaataaat taggcggcag tgctgaaaat ataggtgata acttaggaaa ggcaggcagt      840

gtactgtcaa cgtttcaaaa ttttctgggt actgcacttt cctcaatgaa aatagacgaa      900
```

```
ctgataaaga aacaaaaatc tggtggcaat gtcagttctt ctgaactggg caaaagcgag      960

tattgagcta atcaaccaac tcgtgggaca cagctggcca gcctttaata ataatgttna     1020

actcattttc tcaacaactc aataagctgg ggaagtg                              1057
```

```
<210>   108
<211>   752
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (714)..(714)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (719)..(719)
<223>   n equals a, t, g, or c


<400>   108
taccgggccc cccctcgagg tcgacggtat cgataagctt gatatcgaat tcctgcagcc      60

cgggggatcc actagttcta gagcggccgc caccgcggtg gagctccagc ttttgttccc     120

tttagtgagg gttaatttcg agcttggcgt aatcatggtc atagctgttt cctgtgtgaa     180

attgttatcc gctcacaatt ccacacaaca tacgagccgg aagcataaag tgtaaagcct     240

ggggtgccta atgagtgagc taactcacat taattgcgtt gcgctcactg cccgctttcc     300

agtcgggaaa cctgtcgtgc cagctgcatt aatgaatcgg ccaacgcgcg gggagaggcg     360

gtttgcgtat tgggcgctct tccgcttcct cgctcactga ctcgctgcgc tcggtcgttc     420

ggctgcggcg agcggtatca gctcactcaa aggcggtaat acggttatcc acagaatcag     480

gggataacgc aggaaagaac atgtgagcaa aaggccagca aaaggccagg aaccgtaaaa     540

aggccgcgtt gctggcgttt ttccataggc tccgcccccct gacgagcatc acaaaaatcg     600

acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg cgtttccccc     660

tggaagctcc ctcgtgcgct ctcctgtttc cgaccctgcc gctttaccgg atanctgtnc     720

ggctttctcc cttcgggaag cgtggcgctt tc                                   752
```

```
<210>   109
<211>   486
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (11)..(11)
```

<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (477)..(477)
<223> n equals a, t, g, or c

<400> 109
cttgggtaat ngacctcata tccctccgcc aaaaaaggat ctacatgcga ttttgcgaag   60

ccagcgttga ttgtaggcga gagaatggtt ctgttgtttt ggtacatttc agttgtcatg   120

gatttcacaa atgtagcatg acctttcacc tgtccaagag actgcaacac catctgtcca   180

aaacaataaa taggaatcaa acaggctacc aacatcaaca agtatcccaa taaggctcgt   240

agtttagtcc ttgacatgac gcccctccaa ttgcttttct agtcctttga caatccgtcg   300

attacgatac acgcgataca gcaagagaag gatgaccgcc atcgctccta gtaataacca   360

caaccagaat tgcccacgct ctctcaccgc tcgattccgc tctgcaattg gtgccgtata   420

cggaatccgc ttcccacgta ccaacagacg atgactgtta atcctatacg gtgtacnagt   480

caacca   486

<210> 110
<211> 313
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (7)..(7)
<223> n equals a, t, g, or c

<400> 110
ttacgcnttc aaccaggtct tctggtttac caacgcccat caggtaacgc ggtttgtctg   60

ccggaatttg cgggcataca tgctccagaa tgcggtgcat atctgctttc ggctcaccca   120

cagccagacc gccgacagcg taccatcaaa accgatatct accagacctt taacagaaat   180

atcacgtaaa tcttcgtaaa cgctgccctg gatgatacca aacagcgcat ttttgtttcc   240

gagactgtca aaacgctcac ggctacgtcg cccaacgcag agacatctcc atggagcgtt   300

ttgcgtaatc cca   313

<210> 111
<211> 1613
<212> DNA
<213> Escherichia coli

<220>

<221> misc_feature
<222> (27)..(27)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (40)..(40)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (168)..(168)
<223> n equals a, t, g, or c

<400> 111
```
cggaaatccc agtaattcca tcctcanata ttccactcan cctcactgta acaaagtttc      60

ttcgaataat aaaaatcatg ctttctgtta tcaacggaaa ggtattttta ttctctgtgt     120

ttgctttatt tgtgaaattt agtgaatttg ctttttgttg gctttatntg atgtgtgtca     180

cattttgtgt gttatttttc tgtgaaaaga aagtccgtaa aaatgcattt agacgatctt     240

ttatgctgta aattcaattc accatgatgt ttttatctga gtgcattctt tttgttggtg     300

ttttattcta gtttgatttt gttttgtggg ttaaaagatc gtttaaatca atatttacaa     360

cataaaammc taaatttaac ttattgcgtg aagagtattt ccgggccgga agcatatatc     420

caggggcccg acagaagggg gaaacatggc gcatcatgaa gtcatcagtc ggtcaggaaa     480

tgcgtttttg ctgaatatac gcgagagcgt actgttgccc ggctctatgt ctgaaatgca     540

ttttttttta ctgataggta tttcttctat tcacagtgac agggtcattc tggctatgaa     600

ggactatctg gtaggtgggc atcccgtaag gaggtctgcg agaaatacca gatgaataat     660

gggtatttca gtacaacact ggggagactt atacggctga atgctcttgc agcaaggctt     720

gcaccttatt atacagatga gtcgtcggca tttgactaaa ttatggcatt ccggagtttc     780

tggaagataa aaaaagaagc ccttatcaga aagcagacag gttatatcag tattctgtcg     840

ataaataacc tgccctgaaa atacgagaat attatttgta ttgatctggt tattaaaggt     900

aatcgggtca ttttaaattg ccagatatct ctggtgtgtt cagtaatgaa aaagaggttg     960

ttatttatga ttaagtcggt tattgccggt gcggtrctat ggcagtggtg tcttttggtg    1020

taaatgctgc tccaactatt ccacaggggc aggtaaagt  aacttttaac ggaactgttg    1080

ttgatgctcc atgcagcatt tctcagaaat cagctgatca gtctattgat tttggacagc    1140

tttcaaaaag cttccttgag gcaggaggtg tatccaaacc aatggactta gatattgaat    1200

tggttaattg tgatattact gcctttaaag gtggtaatgg cgccaaaaaa gggactgtta    1260
```

```
agctggcttt tactggcccg atagttaatg gacattctga tgagctagat acaaatggtg     1320

gtacgggcac agctatcgta gttcagggg caggtaaaaa cgttgtcttc gatggctccg      1380

aagtgatgct aataccctga aagatggtga aaacgtgctg cattatactg ctgttgttaa     1440

gaagtcgtca gccgttggtg ccgctgttac tgaaggtgcc ttctcagcag ttgcgaattt     1500

caacctgact tatcagtaat actgataatc cggtcggtaa acagcggaaa tattccgctg     1560

tttatttctc agggtattta tcatgagact gcgattctct gttccacttt tct           1613
```

<210>   112
<211>   930
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (1)..(1)
<223>   n equals a, t, g, or c

<220>
<221>   misc_feature
<222>   (26)..(26)
<223>   n equals a, t, g, or c

<220>
<221>   misc_feature
<222>   (126)..(126)
<223>   n equals a, t, g, or c

<220>
<221>   misc_feature
<222>   (540)..(540)
<223>   n equals a, t, g, or c

<400>   112
```
ntagtccatg gccccatgga gcgaantcca aagtgtggat attgtcgttt taattcatcc      60

caaaagctga aatacgccaa aacccacgtt ccctaacatt ggtatcatgc ataatgacca     120

cagccnttca gaaagctttg gcaaccagct ttcaaaatca tgggtaccgc ttcaaacgta     180

tgcaaaccat caatatgaag cagatcaatg ctaccttgtg aaaaatgctc taacgcttgg     240

tcaaatgtac tgcgaatgag agtagaaaaa cctgaatagt gctgttgatt atattctgat     300

acttgcctgt aaacttcttc gccatacagc cccgcatgtt catctccccc ccaggtatca     360

acggcaaagc agcatgtttc taaatctagt ttagagactg cttggcaaaa tgagaaataa     420

gaacttccat aatgagttcc cagctcaaca atatttcttg gccgcagtgt gtcaactaac     480

cagaaagcaa aaggaatgtg ttctagccaa gcagattgtg caaggtatgt aggacaccan     540
```

```
aaaagagatg gtttgaaaat gaaattcaat tccctgccaa tatcagtgat gggatataac    600

tcacgattct ctactaactg actaattttt tgactatcca ttgaggaaaa ctcacatgta    660

tttatagaat taaatcaaga aacctgaaaa tacctatagt gcggtaactt attaactaac    720

atttaaatat taacaataca cttggaaata ttagttaaaa ataaatcatt atgatttctc    780

atcaatcctg gtgctcacgc aaagttgcca gccccataat aataagacca tagaacaagc    840

aaagtaatac acccacagtc gcaagattat agaatcgccg tggatattcg gcatcttccg    900

ctaaagttgg ttgggtaata accaatagat                                     930
```

<210>   113
<211>   659
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (238)..(239)
<223>   n equals a, t, g, or c

<400>   113
```
acgatatccc ccctctgctt ttgagaggca atctgcttta atacatgatt catcacaaca     60

cctcttgctg cgctttgatc ttaattttat attttttgggt agggaaaagt aattgcccct    120

gatacggctc accatttacc aacgtttcac agctatgttc cagagctaaa ttaagacctg    180

gtagaatatc ccagcaattc acccctttga cattttcaaa gctgtcataa gcaccggnna    240

aggggggggcc aacatgttat acatggagca gccaatgata cgatattcaa agccctcttc    300

cagttgcatc agatcctgct tggtaasgga ggaagagagg ccacgaatac gagagcgatg    360

atgtgtaatc ggcatacctg tgatatgaag atcattcaat tcaggtaaga agatgcagga    420

ctcttgatgt ttcccctcgg tgtaaatgct gataccaatg ccccactctt tgagcccaga    480

gacaaagttt tctgtgccat caattggatc tagaacaatg taagaacctt tgggattcca    540

ctcaatatct cctaaagggg ctaattcctc tgaaattagc acatgccctg gtagatgctt    600

tctacagagt tcgaaaacta tatcttgaac ttttagatcc agtactgcgg ccgcgatcc     659
```

<210>   114
<211>   556
<212>   DNA
<213>   Escherichia coli

<400>   114
```
cccggatata catcaggaga aattggagca gcaattggat gcgccattaa tgcctggtta     60

gggatccccg catgtgggca cgcaaatggc tcagaatatg atcgaccttc accagataaa    120
```

```
ccaaatctga gcgaaccatt tatcccaaga cccacgtatg acgcttcact tcattcctgg      180

catggcggat actgagtaaa tcatcctgaa tcattatgtt caacatcatc aattctccgg      240

acttgttgtc agatgtccgg agaatattaa ccttttcttc agaaacagaw tgatcaagaa      300

tcacactcct tctttaagag gatttttatcc agaaaactga ctttcttcta tcaaaatmac      360

agtatcctgt tttatcagga ataatcttta cctccggtat cattcccata atcagatatc      420

agaaaaatgt gccagtaatt ttttactgat gacttcaaac atttcacatt catcacacgt      480

cagattactc caaagttctt tcagatatgt gttctgcgcc agagtgagtc tctgaataaa      540

aaacatacct tcagac                                                       556
```

```
<210>   115
<211>   503
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (60)..(60)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (65)..(65)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (90)..(90)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (460)..(460)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (496)..(496)
<223>   n equals a, t, g, or c


<400>   115
tacctgtttg tggaatttga cccagaagtg attcatacca cgactatcaa cgcgacccgn      60

gtgtncagcc acttcgtgcg ctttggcgtn cgcagcgata gtcccatcgg cggttattca      120

tcagctatcg gtatataaac cgaaagacat tgtcgattcc ggcaacccct tatccgggtg      180
```

```
ataaggtgat tattaccgaa gcgcgttcga aggctttcag gccattttca ccgaacccga      240

tggtgaggct cgctccatgc tattgcttaa tcttattaat aaagagatta agcacagtgt      300

gaagaatacc gagttccgca aactctaaaa cgcaatccca aacagtgttt tgacattagc      360

atccgtggtg gcagccagcc atgcggcatc ttctccacgc cagtgcgcaa tacgttgcaa      420

aatatggggc agatgggctg gctcgttgcg ccgggatgan ggctttggcg tgagatcgcg      480

                                                                       503
agggagcaga tacggngcat cag
```

```
<210>   116
<211>   433
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (138)..(138)
<223>   n equals a, t, g, or c


<400>   116
tttaacatca aaattacctg cagctgaaat gattttgctg atttcattaa ttaatggatt       60

aagattaccc tgacttccat aggctaatgc atcattccca tacacataac ttgccttatt      120

attactctgt tgatactnaa gtgccttttt aagggaatct ggtgtgatta ccctgccgtc      180

tttatcaaaa atctgctcta tctggtgatt agagatatca cctgactctt tttcaaacca      240

gtttttaaat gtaataccat ttttgtggcc aatggaaaga acattacctt cagctttata      300

catgatgagg tcattacctt ctcgcctgaa ggccacatcc cggaaatcaa tatcagccaa      360

actgagttta tcgtctttcc ccccatcatc gtcaataata tgatggccat atcctgaaag      420

                                                                       433
ataacgataa ata
```

```
<210>   117
<211>   302
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (280)..(280)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (299)..(299)
<223>   n equals a, t, g, or c


<400>   117
```

```
gcgctctgtt cccgttcctg ttcatcacca tcgcctgtgg tgcggtatct ggcttccacg       60

cgctgatctc ttccggtacg acgccaaaac tgctggctaa tgaaaccgac gcgcgtttca      120

tcggctacgg cgcaatgctg atggagtcct tcgtggcgat tatggcgctg gttgctgcgt      180

ccatcatcga accgggtctt tacttcgcga tgaacacccc gcctgctggc cttggcatca      240

ccatgcctaa cctgcatgaa atggggtggc gagaacgcgn cggattcatc atggcgcant      300

ga                                                                     302
```

<210> 118
<211> 656
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (628)..(628)
<223> n equals a, t, g, or c

<400> 118
```
aattaataag ccaaatacta catcacgtaa tacttgcaaa gaagtgcgtg gagtttgact       60

aataatgggt ttgtccatta atacttaccc aaataatcgg ctcattatag caacgagcct      120

ccgattaaaa tttaaaatac tcaatcattt aatagcaacg ttagcagcta cagcgatttg      180

ataaataatt tgtgtgatat ctttaaatga ttgcatggtt ttgctatcaa cctgaggtag      240

aaccaatatc tgatcccccg gttgtacttt accttgccct ttaaattcta caagaccatt      300

tgcatgtaca atagcaattc gcttgtcgtt agctcgctca gtaaaacctc cggcccatgc      360

aacataatca tccaaattag catcggcatt atatactact gcttgtggca tcaacacttc      420

accccccact tgaataagat cagtcttatt tggaataact atttgatcgc cttgttctaa      480

ttggatawtg gcaataacac ctttatctgc aactactact ttaccaagcg gtkgaacttt      540

acgagccttt ycaacaaact gcatcactaa ctctgcttct ttagcacgta tattcgcctc      600

accatcagat cgcgcgggtg tggtaaantt catacgttcc aagcggttta gagatt         656
```

<210> 119
<211> 436
<212> DNA
<213> Escherichia coli

<400> 119
```
atatgttatc tggatccaga taaagagcgt tcttgacccg ctatatccag acaggtcagt       60

tacaccctgt ccggaaaaac tgatcggaat aacaacagta tattttctaa tacactggca      120

aatggtgccg gcggtgtggg gattcagctt ctggatagcg ctggtaatgc ggttgctgct      180
```

```
ggacagaaga aatatctggg acaggtagga ccatcaacat ctctcaatat tggattaagg    240

gcatcttatg cactgaccaa tggacagact ccacctactc ccggacgagt tcaggcgtta    300

gttgatgtta ccttcgagta taattaggaa tgtcggggat gggctatccc cgatattatt    360

gcaggattag tctgtgatac agatatacag cccatatgaa caactgtttg catatataaa    420

                                                                     436
aatgatgata atttta
```

```
<210>   120
<211>   559
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (463)..(463)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (499)..(499)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (552)..(552)
<223>   n equals a, t, g, or c


<400>   120
aataattaaa tttggaggga tcagttttct gataatgttc tgttattaaa acattatccc    60

atggggcgta gttatatcaa ttagcaggat cttatgagtt aactaacatc agttttgaat    120

ttttaatggg ggtaatttat cttttactaa aaatatttta actattaata tagcatcatg    180

gttgttacgg tttgttttaa ttctatttta taatgtgcta tatattgtat ttttgtgctt    240

agataaatat gttttttcat tactttagtg atgttaatat tttgcgtgta gtaaaaatca    300

ttgttataac aaatgtcact gttgctatac tttgctgaac tgtttatcgg tcattttgat    360

tcaatcactg gttctatatt ttttaataac cgttctgtag cgattaatat attgctctcc    420

agaggataca ctatatgaaa tatattaaaa gtcattaatt ttnattcaat gttgtttaga    480

gttatgttca gtgtttggna ataggatgtg tttctaaacc gtcttgggtt ctataataaa    540

                                                                     559
ttctattctt anaggtttt
```

```
<210>   121
<211>   481
<212>   DNA
<213>   Escherichia coli
```

<400> 121

```
catgtccctt cctgaatact ggggagaaga gcacgtatgg tgggacggca gggctgcttt    60

tcatggtgag gttgtcagac ctgcctgtac tctggcgatg gaagacgcct ggcagattat   120

tgatatgggg gaaacccgg tacggattta cagaatggtt tctccggacc tgaaagaaaa   180

ttcagcctcc ggctcaggaa ttgtgaattt aacagtcagg gtgggaacct tttctctgat   240

tcccggataa gggtgacttt cgatggcgtc cggggtgaaa cgccggataa gtttaattta   300

tccggtcagg caaaaggcat taatctgcag atagctgatg tcaggggaaa tattgcccgg   360

gcaggaaaag taatgcctgc ataccattg acgggtaatg aagaagcgct ggattacacc   420

ctcagaattg tgagaacgga aaaaaacttg aagccggaaa ttattttgct gtctgggatt   480

a                                                                   481
```

<210> 122
<211> 535
<212> DNA
<213> Escherichia coli

<400> 122

```
ccatatagtg acttcattga acaaaatgta aatggaatct tgctggagaa tgacccacat    60

atatggataa aagctctttc attacttgtt agtgcagatc ataaacgtag cgagttggcg   120

ttcaatgcta aaaaatatgc ttgtaaaatt gtaggtgtcg agtaaaaaga tatttttatt   180

taattggtgc tattgaatgt ttaaaaatcg aactgattgg tgttttaata ttaatcatag   240

gttatgatgc aaaaatatat taggcattgc ctgcttcaat taacttgaga gtgtaagttg   300

aattgaaata tggttatatg ataaagcaat atatgttaat acatatgtca accgaaaatg   360

ccattatgtg tttttttactt tatctgtaac gacacaatat ataaaataag gctaataatc   420

aaaacgcttt ttaatttgat tgttttgaat caagtgacta agaaattctc ttgctgcaaa   480

taactccctt agtgattttt tttgagtcta ttttattctc tgggcatggt catgc        535
```

<210> 123
<211> 412
<212> DNA
<213> Escherichia coli

<400> 123

```
ccggccccat aatgatggtt ttattaaggt tagcgccgac ggtttcgatg aacgatttca    60

ggtcggtatc tttaaaatta gcggtgaaag tggcttcttc cgcccagacc ggtgaactgc   120

ataatgccgc tgccagcacc agcggcagta aacgcttttt tgttttgagg ccagttgtct   180

tcttacgcca gaccgacaac gtcatatcac gccaaaacac gatgaatgat tctcctggat   240
```

```
taaatgcggt tagcgcagcg cgatggaaat gtcgtggcgc gcacccttgc gtaaaaccgt      300

aagttgaatg gaatccattg aaggtaactg ccgcatcaga gcaatcattg ctcgtggatc      360

agtgaaatcc tgctgattta gcgcaaatgc gatatcgcct tccttaaaac cg             412
```

```
<210>   124
<211>   576
<212>   DNA
<213>   Escherichia coli

<400>   124
tagcctgttc agcgtatatt tgggatgaga agccaaagtg gctttggtgg tgtcccagcc       60

caggttttta ttactgctgg ttatttacct ttcatgtttt tcaataaagt tgtgactcag      120

ttgaaatctg ctgtcaatgc taatatggga cttttttgtt atagacaagt gactcctttt      180

gcaactttta tagcacgttt tatgctagaa acaatggtgg gcatgattgt cggtataatc      240

ctagtactag gattattgtg gtttggcttt gatgcaatac ctgcggatcc attgcaagtg      300

atccttggtt attctcttct gatgctgttt tcttttttctc ttggtattgt attttgtgtt     360

atttgtaatt krgcgaraga ggcagataaa tttcttagct tgttaatgat gcctttgatg      420

tttatctctt gtgttatgtt tcctcttgct actattcccc ctcaatatca gcattgggtt      480

tttatggaat ccacttgtgc atgctgtaga actaatccga agggcatggg atatctgggt      540

tatcgtagtc ctgatgtaag ttgggcgtat ctgtcg                                576
```

```
<210>   125
<211>   132
<212>   DNA
<213>   Escherichia coli

<400>   125
ttaccaagca ggatctgatg caactggaag aaggctttga atatcgtatc attggctgct       60

ccatgtataa catgttggcc gccgtacgcg gtgcctatga cagctttgaa aatgtcaaag      120

gggtgaattg ct                                                          132
```

```
<210>   126
<211>   542
<212>   DNA
<213>   Escherichia coli

<400>   126
gattaggggt cactcaggat tataaaaaag cggcagaata ctataaaaaa ggtgataaaa       60

ataatgatat tacagcacaa taccgtctgg caaaacttta tgaacaaggt aacggtgtaa      120

aacgtgatta tcaacaagcg ataaaccttt accttaaaca tatcaacaga atggatcaca      180

tcactgcccc cagttttgtg gctctgggtg atatctattc tctgggatts ggggtagaga      240
```

```
aaaacccaca actggctgaa aaatggtatc aaaaagcgat agatgcagct aatacacaac    300

ataaccagga aataaatcat taaacgacaa cacttaatac catattgtga agatgttcag    360

acatggcgga attcccctat tctttgttgg cgcttacaac agactatatt ccgccatatc    420

tgtctttatt gtgtataaac catcgatact gatgtttgat agtgctaaat aatcattggc    480

gcaatcacaa agcctaatgc cactccagca ataattcccc ccaacccagg cagcataaat    540

                                                                     542
gg
```

```
<210>    127
<211>    382
<212>    DNA
<213>    Escherichia coli

<400>    127
gaaccactta gcggcagcta tcgggaatcg cctgctgaaa gacggtcaga cagtgattgt     60

ggttaccgtg gctgatgtta tgagtgccct gcacgccagc tatgacgatg ggcagtcagg    120

cgaaaaattt ttgcgggaac tgtgcgaagt ggatctgctg gttcttgatg aaattggcat    180

tcagcgcgag acgaaaaacg aagcaggtgg tactgcacca gattgttgat cgccggacag    240

cgtcgatgcg cacgtgggga trctgacaaa cctgaactat gaggccatga aaacattgct    300

cggcgarcgg attatggatc rcatgaccat gaacggcggg cgatgggtga attttaactg    360

                                                                     382
ggagactggc gtccgaatgt cg
```

```
<210>    128
<211>    126
<212>    DNA
<213>    Escherichia coli

<400>    128
cgtcccgcac ccggaaatgg tcagcgaacc aatcagcagg gtcatcgcta gaaatcatcc     60

ttagcgaaag ctaaggattt tttttatctg aattctagcc agatccccgc tgatttatgc    120

                                                                     126
tggtta
```

```
<210>    129
<211>    258
<212>    DNA
<213>    Escherichia coli

<220>
<221>    misc_feature
<222>    (142)..(142)
<223>    n equals a, t, g, or c


<220>
```

```
<221>  misc_feature
<222>  (205)..(205)
<223>  n equals a, t, g, or c


<400>  129
accccccagcc tagctggggg ttttctgtgc acaaaaaatc ccggcataat ggccgggatt      60

tgcgagcttt cccactattt cttgattcct aaacggaaca tatcagttgg gaataaaggt     120

tgtattatca cttcatcatt anaaatgaat aatttgggcg ataaagctgt tacgtcatag     180

atattttcag cgattaatct taganttgac ctaaaaactg gaatacttgc atcatctgca     240

                                                                      258
aagacaaaca tgtcatcg


<210>  130
<211>  399
<212>  DNA
<213>  Escherichia coli

<400>  130
aaccagcggt tcgcatcatc tcatcccact gactctccgc ttttgacaga tctgcatatc      60

ctcgggccaa cttatccagt actccgtagt ttgccgattt attcacccgc cagaacaccg     120

cctcacctgc atcggcaagc cggggggaaa actgataccc cagtagccag aacagaccga     180

aaataatatc gctgctaccc gcagtgtctg tcatgatttc aactggattc agccctgtct     240

gctgctcaag aagtccttcc agtacaaaaa tcgaatcccg taatgtaccg ggtaccacaa     300

tgccatggaa cccagagtac tgatcagata cgaattatac caggtgatgc ctcgtccaga     360

                                                                      399
accaaaatat tttctgttag atcctgagtt gatggtctt


<210>  131
<211>  745
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (297)..(297)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (323)..(323)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (330)..(330)
<223>  n equals a, t, g, or c
```

<220>
<221> misc_feature
<222> (335)..(335)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (715)..(715)
<223> n equals a, t, g, or c

<400> 131
aaataacatc aacatacatt tgactcgcgg gggaaacgtt tacggagtct tcatactggc   60

acttttttat gctgctgact actcttcgtc atcgccatca acatgcgcac gaatcagcgc   120

cataaacggt ttgccaaagc gttccagctt gcgcatccca acgccgttaa cgctgagcat   180

ttcgctggcg gtgatcggca tctgttcagc catctcaatc aaggttgcgt cgttaaacac   240

cacgtacggc gggacattac tttcatcggc tatcgattta cgcagtttgc gtaattnggc   300

gaacagtttg cgatcatagt tgncgccgan cgatntctgc atcgctttcg gtttgagcgc   360

cacgatacgc ggcacggcaa ttgcaaagag gattcgccgc gcagcaccgg gcgcgcggcc   420

tctgtcagtt gtagggcaga atgctgggca atattttgcg tcaccaggcc gaggtgaatc   480

agctggcgga tcacgctcac ccaatgttca tggctttat cacggcccat gccatagact   540

ttcagtttgt catgaccata gtcgcggata cgctggttat tagcaccacg aatcacttcc   600

accacataac ccatcccaaa ccgctgattc acacgaccaa tggtggaaag ggcaatctga   660

gcatcggttg aaccgtcgta ctgtttcggc ggatcgaggc agatatcgca gttcnccgca   720

cggctcctga cgcccttcgc caaaa   745

<210> 132
<211> 439
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (108)..(108)
<223> n equals a, t, g, or c

<400> 132
agaatggcgg cttcttgccc ccctttgccc cggtcctgac tagcatggct ggagtccagt   60

gtccaggcca cgaccatgct catcatggaa gcagcttttg tagtacantc gcagcttatt   120

ttcctggaac gaaatgtctg gcatcgtggt gcataacata acccccaatg cccagcagat   180

gcacagaagg ttctagaatc gcccactgat atcccataca aaatttacca aaacgtgttc   240

```
gtatttctcg tataaataat gtctctatgg tgacgttcta gacttcaaac ccactttttg      300

aatttgatga tgtgctccta atctcttcag gaatgtaacg cccttggttt acagctacca      360

atacactgga ggtatactta tctgcaactg gatgaactag atgtacttga gcaaacattt      420

                                                                       439
cataagctcg acgacagtt
```

<210> 133
<211> 350
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (97)..(97)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (208)..(208)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (335)..(335)
<223> n equals a, t, g, or c

<400> 133
```
ctggaaagcg acgttgatgg attaatgcag tcggtaaaac tgaacgctgc tcaggcaagg       60

cagcaacttc ctgatgacgc gacgctgcgc caccaantca tggaacgttt gatcatggat      120

caamtcatcc tgcagatggg gcagaaaatg ggagtgaaaa tctccgatga gcagctggat      180

caggcgattg ctaacatcgc gaaacagnac aacatgacgc tggatcagat gcgcaccgtc      240

tggcttacga tggactgaac tacaacacct atcgtaacca gatccgcaaa gagatgatta      300

                                                                       350
tctctgaagt gcgtaacaac gaggtgcgtc gtcgnatcac catcctgccg
```

<210> 134
<211> 400
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (256)..(256)
<223>

<220>
<221> misc_feature

<222> (256)..(256)
<223> n equals a, t, g, or c

<400> 134
ccccaagatt gctaacaaat gcgcgttgtt catgccggat gcggcgtgac cgccttatcc   60

ggcctacgaa accgcaagaa ttcaatatat tgcaggagcg gtgtaggcct gataagcgta   120

gcgawtcagg cagttttgcg tttgcccgca accttagggg acatttagcg accccattta   180

tttctcactt ttccgcctca tcatcgcgcg ttaatttctt tcatgaatca cgctttacaa   240

tatccagcgc gcgcanaacg gtactggcag ggatctgaat tttcctccag cagcacaatc   300

aaatcgacag ccagtttgac atcgtcaagg ggcattttcc cagtgacata atctctccat   360

tgctaagcgg gttaaaacgc gctaacctgt ttcgattttt   400

<210> 135
<211> 463
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (25)..(25)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (432)..(432)
<223> n equals a, t, g, or c

<400> 135
ctatccttat gaccacccaa ctacntcatt tacacccaaa ccagcgatct gaataaagaa   60

gcgattgccc agttacgact gggcggaaaa tgcgcgtaag gatgaagtaa agtttcagtt   120

gagcctggca tttccctgtg gcgtgggatt ttaggcccga actcggtgtt gggtgcgtct   180

tatacgcaaa aatcctggtg gcaactgtcc aatagcgaag agtcttcacc gtttcgtgaa   240

accaactacg aaccgcaatt gttcctcggt tttgccaccg attaccgttt tgcaggttgg   300

actgcgcgat gtggagatgg ggtataacca cgactctaaa cgggcgttcc gacccgacct   360

cccgcagctg gaaccgcctt tatactcgcc tgatggcaga aaacggtaac tggctggtag   420

aagtgaagcc gnggtatgtg gtgggtaata ctgacgataa ccc   463

<210> 136
<211> 584
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (425)..(425)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (467)..(467)
<223> n equals a, t, g, or c

<400> 136
ttggtcagcc gtacctgaat gggggctgat gcccggctgg ttaatggcag gtggtctgat   60

cgcctggttt gtcggttggc gcaaaacacg ctgatttttt catcgctcaa ggcgggccgt   120

gtaacgtata atgcggcttt gtttaatcat catctaccac agaggaacat gtatgggtgg   180

tatcagtatt tggcagttat tgattattgc cgtcatcgtt gtactgcttt ttggcaccaa   240

aaagctcggc tccatcggtt ccgatcttgg tgcgtcgatc aaaggcttta aaaaagcaat   300

gagcgatgat gaaccaaagc aggataaaac cagtcaggat gctgatttta ctgcgaaaac   360

tatcgccgat aagcaggcgg atacgaatca ggaacaggct aaaacagaag acgcgaagcc   420

tacgntaaag agcaggtgta atccgtgttt gatatcggtt ttagcgnact gctattggtg   480

ttcatcatcg gcctcgtcgt tctgggggcg caacgactgc ctgtggcggt aaaaacggta   540

gcgggctgga ttcgcgcgtt gcgttcactg gcgacaacgg tgca   584

<210> 137
<211> 527
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (108)..(108)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (191)..(191)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (510)..(510)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (513)..(513)

<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (525)..(525)
<223> n equals a, t, g, or c

<400> 137
gcaggcagga ggaactgccc agtgatacgg ttattcgtga tggcggaggg cagagcctta   60

acggactggc gttgaacacc acgctggata acagagttga gcattggnta cacgggggag   120

ggaaagcaga cgttacaatt attaaccagg atgtttaccc agaccataaa acatggcgga   180

ttggcaaccg naaccatcgt caacaccgtt gcagaagktg gtccggagtc tgaaaatgtg   240

tccagcggtc agatggtcgg agggacggct gaatccacca ccatcaacaa aaatggccgg   300

cagttatctg gtcttcgggg atggcacggg acaccctcat ttgcgctggt ggtgaccaga   360

cggtacacgg agaggcacat aacacccgac tggagggagg ttaaccagta tgtacacaac   420

ggtggcacgg caacagagac gctgataaac cgtgatggct ggcaggtgat taaggaagga   480

gggaactgcc ggcgcattac caccatcaan ccngaaaagg gaaanct   527

<210> 138
<211> 441
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (440)..(440)
<223> n equals a, t, g, or c

<400> 138
gtcagtctct gggggaagtg cgtgttccga ccggggaaat gtggtggaga aagttattga   60

aggggcttac gaggtggtgg gggttttga ccggattgag gaaaagcgtg atgccatgca   120

gtcgctgatt ctgccgccac cggacgccag gcgctggcac aggcggcact gacttaccgt   180

tatggtgacg aacmtcarcc cgtcaccacc gccgacattc tgacaccacg acgccgggar   240

gattacggta aggacctgtg gagtgcttat cagaccattc aggagaatat gctgaaaggc   300

ggaatttccg gtcgcagtgc cagaggaaaa cgtatccata cccgtgccat tcacagcatc   360

gacaccgaca ttaagctcaa ccgcgcattg tgggtgatgg ctgaaacgct gctggagagt   420

atgcgctgat gccgtttccn t   441

<210> 139
<211> 398

<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (164)..(164)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (210)..(210)
<223> n equals a, t, g, or c

<400> 139
cgagcgagat gaacttcgag ggcggtgtga gccagtcggc ttacgagaca ctggcggcgc   60

ttaatctgcc gaaaccgcag caagggccgg aaaccattaa tcaggttacc gagcataaga   120

tgtcagctga gtaagcctgt atgccggata aggcgctcgc gccnattccg atgaaataag   180

gcgcatcggg cctgaaggaa agccgtatgn atacacccgc agcccgcatc cggcaagtta   240

caacaaataa cctttaacca tgctttttga tgtttttcag caataccccg cggcgatgcc   300

catactggca accgtcggga gggattgatc atcggcagtt ttttgaatgt ggtgatttgg   360

                                                                      398
gcgttacccc atcatgctgc gccaacaaat ggcggagt

<210> 140
<211> 580
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (566)..(566)
<223> n equals a, t, g, or c

<400> 140
gccgaacaga cacagcaata tgaaccctgc cagcgcagac gcttgctgat taatgctctg   60

aacaaaggc gaagaatggc aaatcctgcg atcagcaaag tcagcgcacc gactatctgt   120

aacatagtca ctccgtgatg aatatcatgt gtattgtgaa tgccagtgaa tgtggcactg   180

aagcgtttgc acctgtccgg gtcccggtca tgatgaccgs aacagagaga caatgccgaa   240

ttatcagaag gtcacattca gtgtggcttg ccgttataa ccttcagcgc tgctgccgct   300

gacgctgtgg gcataaccgg cctgaacgcc cagggtgata ttttccccgga cacgggcttc   360

cagtccggcc tgcagctcca gtgacgtgcc attccgggac ggtgagaacg tcatgttact   420

gccggctgcg gctgtaccca tgctcatgtc tccccgggag ctgaaggtgc ggataacaga   480

aggctgtacc cacccgttca ccggcagttc acgcacactg tgttttgcac tgtcacgcaa   540

ggtgtcacgg gatgaggtgc cttcancaaa aggtcatatt   580

<210> 141
<211> 446
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (388)..(388)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (399)..(399)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (415)..(415)
<223> n equals a, t, g, or c

<400> 141
tgcggacatc cagcgttccg ccatcatcca cacgggttct ggtggctgtg tgtccggtca   60

gcacatccag acggccgcca ttttccagta cgacattatc agctttaccc tccacaacag   120

agaatgctcc caggcggttt gtgccggtga cggttgcagc agtgctggta accagtgctc   180

cgcccgtgtt ctgggtgaca tcagacgctt taccgccggc attcacctgc agctttcctt   240

tctggttgat ggtggtatgc gcggcagttc ctccttcctt aatcamctgc cagccatcac   300

ggtttatcag cgtctctgtt gccgtgccaa cgttgtgtac atactggtta mctccctcca   360

gtcgggtgtt awgtgsctct ccgtgtancg tctggtcanc aacaacgcaa atganggtgt   420

                                                                     446
cccgtgccat ccccgaagac cagtaa

<210> 142
<211> 327
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (290)..(290)
<223> n equals a, t, g, or c

<400> 142
tgaatacgtt aagtcagcag accggcggag acagtctgac acagacagcg ctgcagcagt   60

atgagccggt ggtggttggc tctccgcaat ggcacgatga actggcaggt gccctgaata   120

```
atattgccgg agttcgccac tgaccggtca gaccggtatc agtgatgact ggccactgcc    180

ttccgtcaac aatggatacc tggttccgtc cacggacccg gacagtccgt atctgattac    240

ggtgaacccg aaactggatr gtctcggaca ggtggacagc catttgtttn ccggactgta    300

                                                                     327
tgagcttctt ggagcgaaac cgggtca
```